

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.**

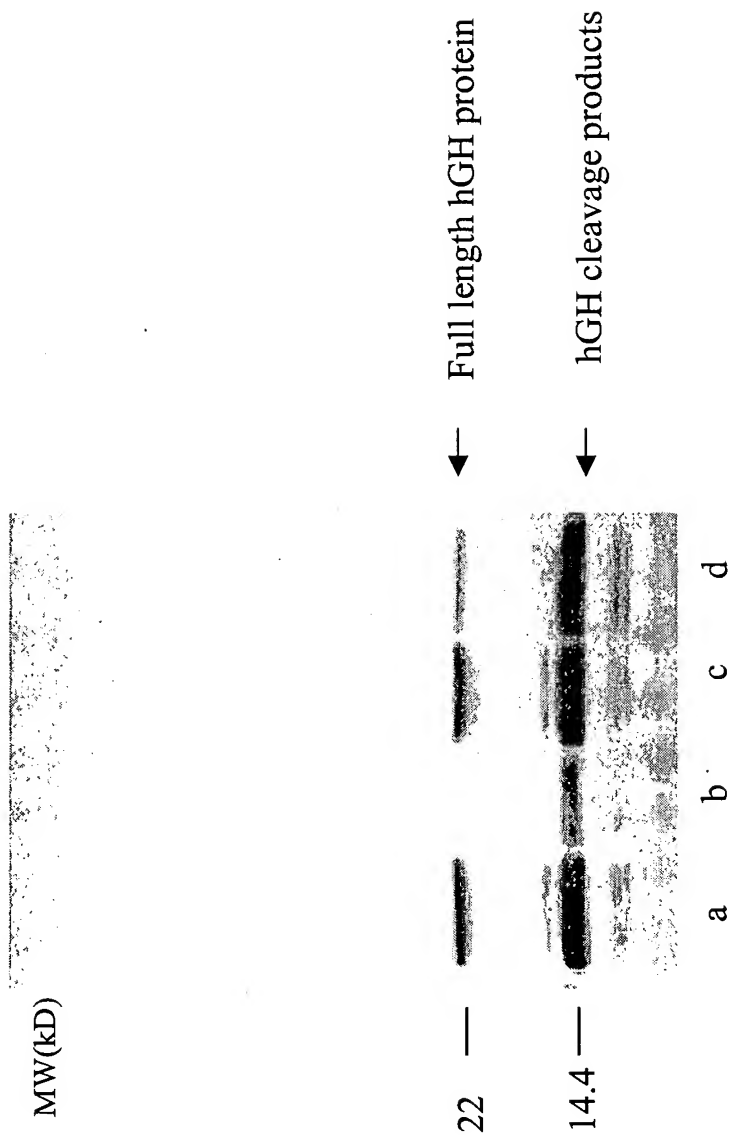
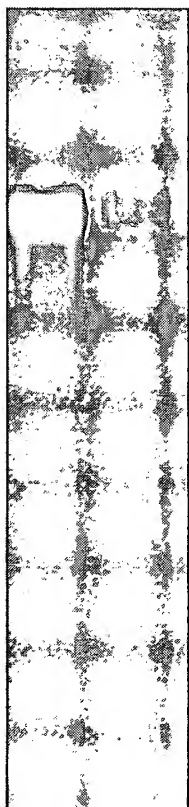


FIGURE 1



- PMSF, 5ul
+PMSF, 5ul

FIGURE 2

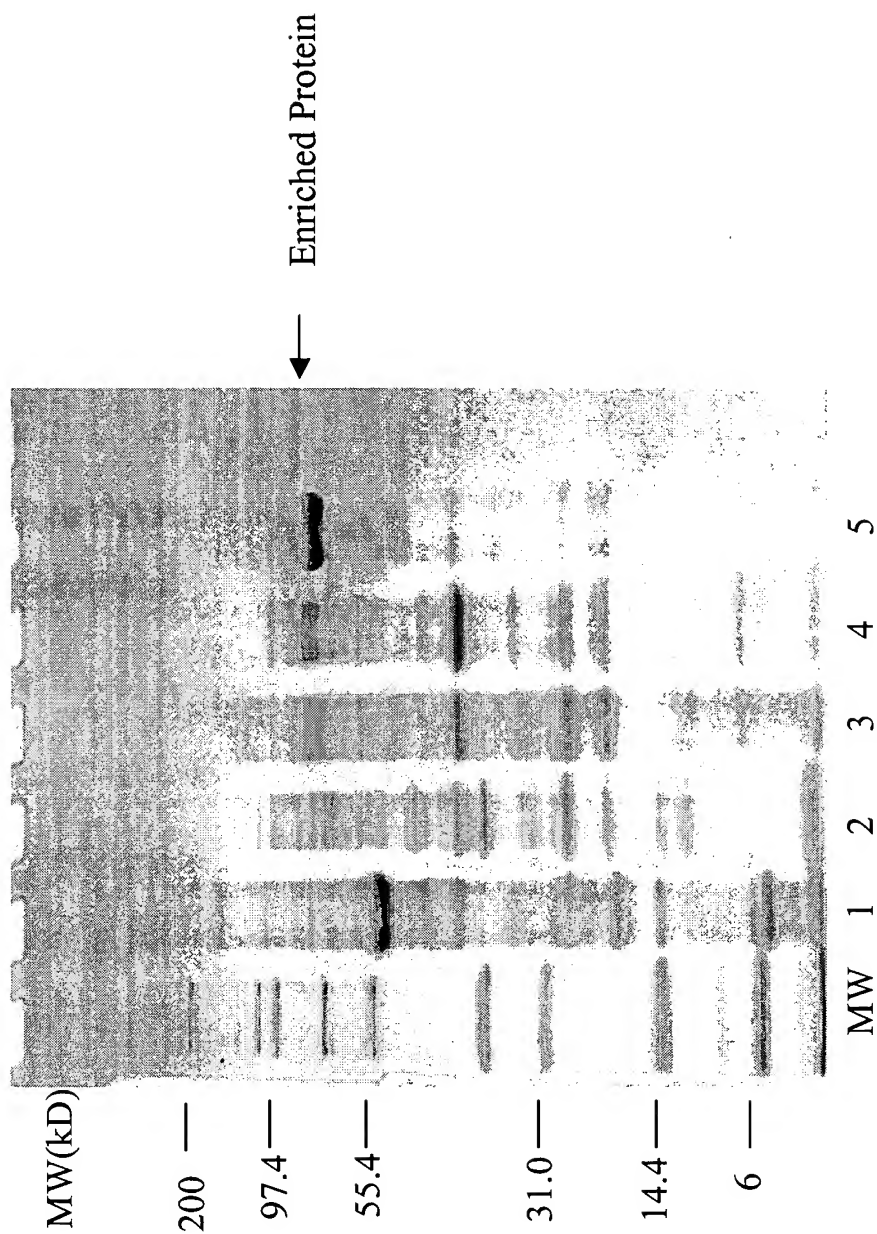


FIGURE 3



Nicotianalysin

SEQID NO:30

TTHTSQFLGL

Tomato

P69A

TTHTSSFLGL

P69B

TTHTPSFLGL

P69C

TTHTPSFLGL

P69D

TTHTPSFLGL

SBT1

TTRSPTFLGL

SBT2

TTRSPLFLGL

SBT3

TTHTSDFLKL

SBT4B

TTHTSDFLKL

SBT4

TTYTFGYLKL

Arabidopsis

Air3

TTRSWDFLGL

Ara12

TTRTPLFLGL

Consensus

TT

FL L

FIGURE 4

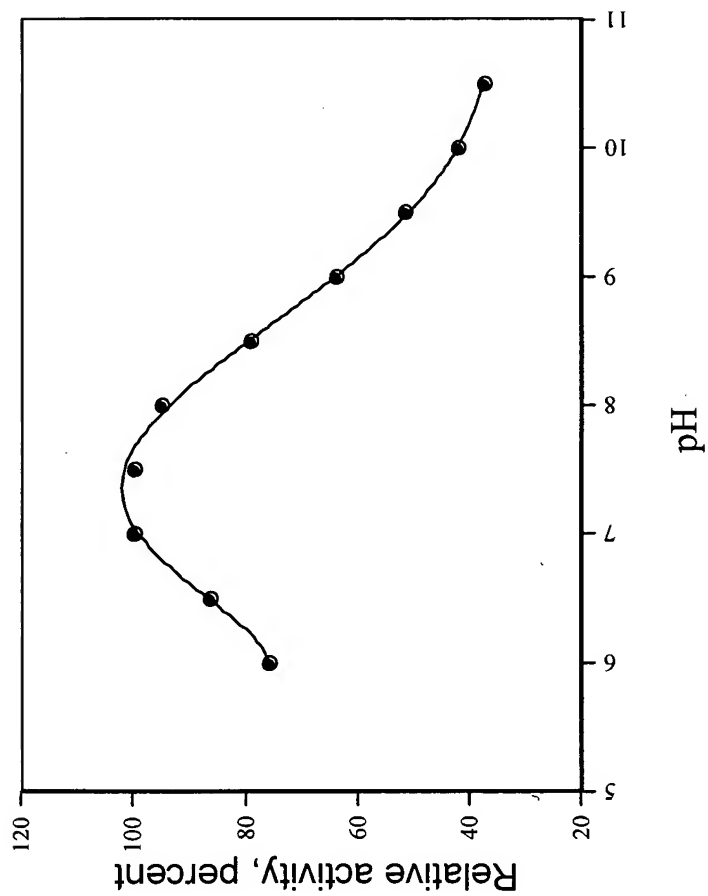


FIGURE 5

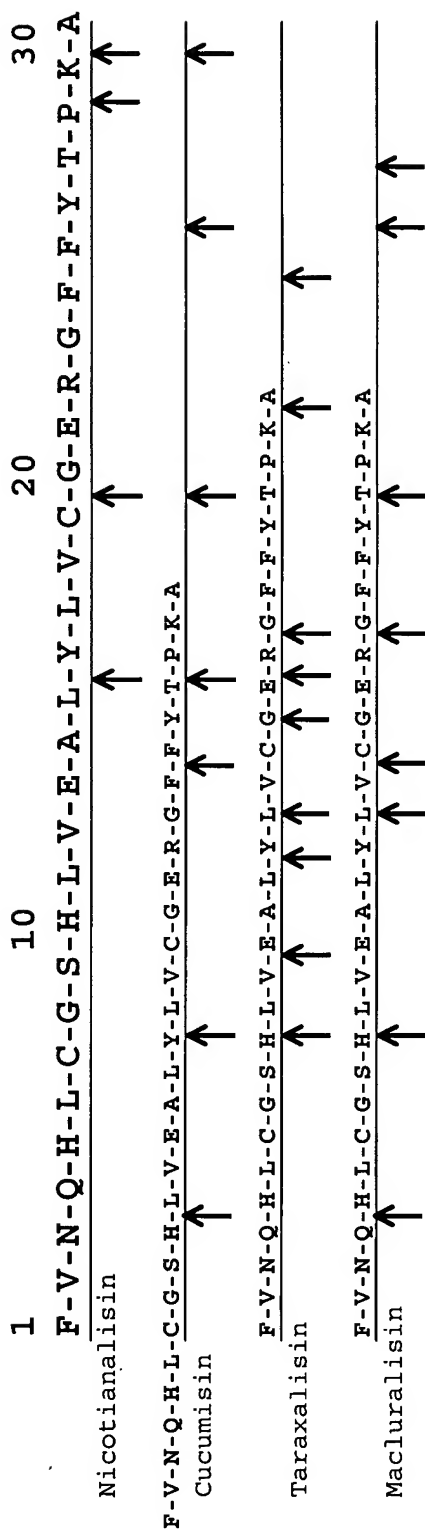


FIGURE 6

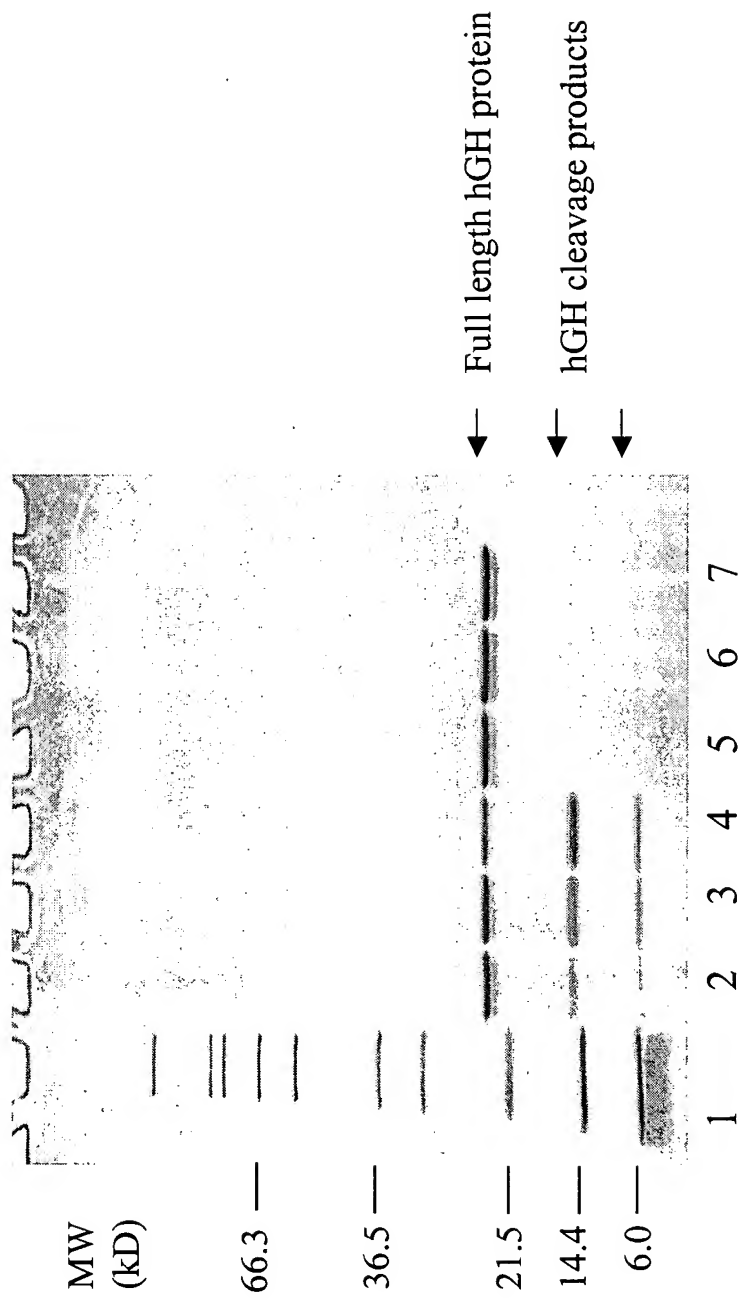


FIGURE 7

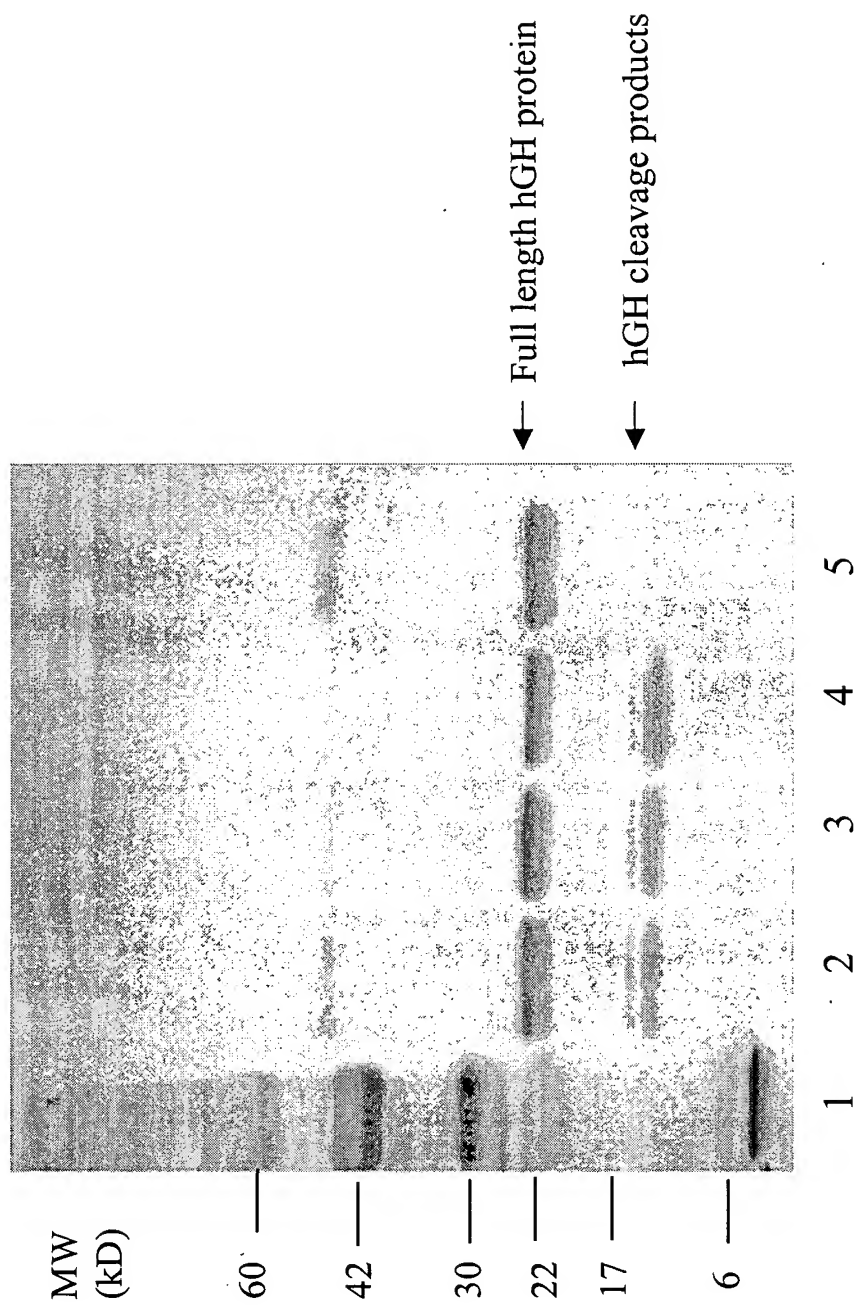
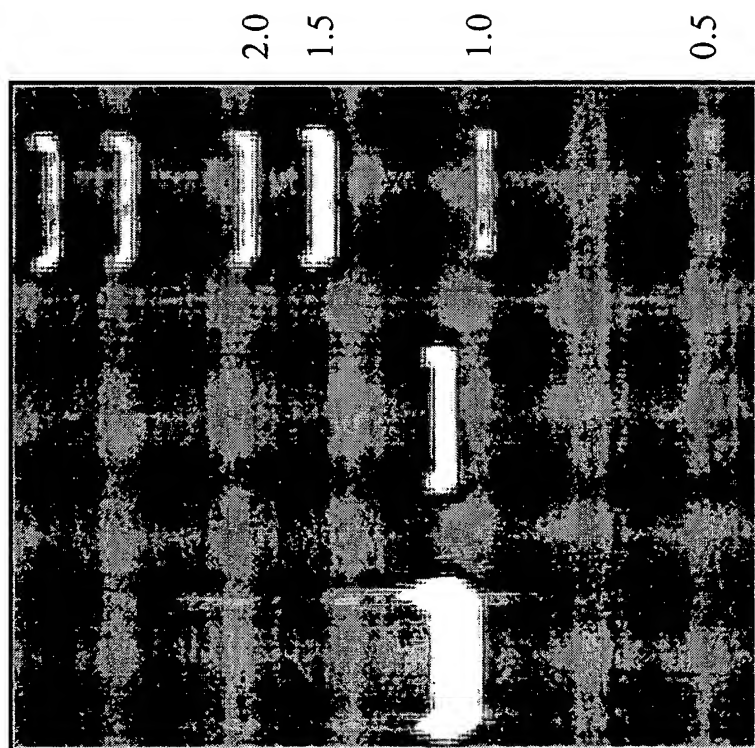
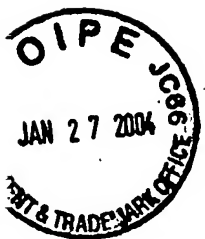


FIGURE 8



Nb At MW markers (kb)

FIGURE 9



Figure 10

*			
Seq ID 24	GVIIGVIDTGIFPDHPSFSDVGMSPPPAKWKGFCEsnFTTKCNnKIIGLR	50	
Seq ID 25	GVIIGVIDTGIVPDHPSFSDVGMppppAKWKGFCEsnFTTKrNNKLIIGaR	50	
p69A (tomato)	GVIIGVIDTGILPDHPSFSDVGMppppAKWKGVCEsnFTnKCNnKIIGaR	50	
Consensus	gviigvidtgi pdhpsfsdvgm pppakwkg cesnft k nnk ig r		
*			
Seq ID 24	SFRLSEDTPIDTDGHGHTHTASTAAGAFVKGANFFGNANGTAVGVAPLAHM	100	
Seq ID 25	SFPldng.PIDenGHGHTHTASTAAGAFVKGANvFGNANGTAVGVAPLAHi	99	
p69A (tomato)	SyqLghgsPIDddGHGHTHTASTAAGAFVnGANvFGNANGTAAGVAPfAHi	100	
Consensus	s l pid ghgthtastaagafv gan fgnangta gvap ah		
*			
Seq ID 24	AIYKVC.SFATCSETDALAAMDAAIDDGVDIISASLGGFTNAPLHDDPIS	149	
Seq ID 25	AIYKVCgSdgvCSdveiLpAMDvAIDDGVDILSiSLGGtsN.PfHnDkIa	148	
p69A (tomato)	AvYKVCnSd.gCadTDvLAAMDAAIDDGVDILSiSLGGggssdfysnPia	149	
Consensus	a ykvc s c l amd aiddgvdi s slgg i		
*			
Seq ID 24	LGAYSATEKGILASASAGNSE.FDNPVANNAPWILTVGASTHDRKLKATV	198	
Seq ID 25	LGAYSATERGILvScSAGNSgpFqrtVnNdAPWILTVGASTHDRKLKATV	198	
p69A (tomato)	LGAYSATERGILvScSAGNngpstgsVgNeAPWILTVGASTqDRKLKATV	199	
Consensus	lgaysate gil s sagn v n apwiltvgast drklkatv		
*			
Seq ID 24	KLGNKEEFEGESADQPKTSNSTFIALFDAGKNASD...QDAPFCRSWAM	244	
Seq ID 25	KLGNKEEFEGESAyhPKTSsSTffLFDveK...DgtratrAPFCipgsl	245	
p69A (tomato)	KLGNrEEFEGESAyRPKiSNSTffALFDAGKNASD...efetPyCRSgsl	246	
Consensus	klgn eefegesa pk s stf lfd k d p c		
*			
Seq ID 24	TDPAIKGKIVLCQKDPSSLTSSQGRNVKDAGGVGMILINNPEDGVTKSAT	294	
Seq ID 25	TDPsIrGKIVvClvgggvrTvdkGqvVKDAGGVGMILINNPEDGVTKSAe	295	
p69A (tomato)	TDPvIrGKIViClagggvprvdkGqaVKDAGGVGMiIINqqrsgVTKSAd	296	
Consensus	tdp i gkiv c g vkdagvgmi in gvtksa		
*			
Seq ID 24	AHVLPALDVSHEEGEKIKAYINSTSNPIAAITFQGTVIGDKNAPIVASFS	344	
Seq ID 25	AHVLPALDVsdadGkKILAYINSTSNPvAAITFhGTvIGDKNAPIVASFS	345	
p69A (tomato)	AHVIPALDiSdadGtKILAYmNSTSNPvAtITFQGTiIGDKNAPIVAaFS	346	
Consensus	ahv pald s g ki ay nstsnp a itf gt gdknapiva fs		
*			
Seq ID 24	ARGPSRANPGILKPDIIIGPGVNILAAWPTTVNIPNKNTNSGFNIISGTSM	394	
Seq ID 25	sRGPSeAsrGILKPDIIIGPGVNvLAAWPTsVdn.NKNTkStFNIISGTSM	394	
p69A (tomato)	sRGPSgAsiGILKPDIIIGPGVNILAAWPTsVdd.NKNTkStFNIISGTSM	395	
Consensus	rgps a gilkpdiigpgvn laawpt v nknt s fniisgtsm		
*			
Seq ID 24	SCPH	398	
Seq ID 25	SCPH	395	
p69A (tomato)	SCPH	399	
Consensus	scph		

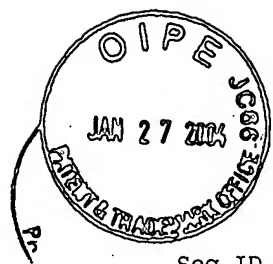


Figure 11A

Seq_ID_40	.....	0
Seq_ID_39	.....	0
Seq_ID_25	.....	0
P69D	.....mgflkillififcsflrpsiqsdletyivhvespenqistqssltldlesyy	51
P69A	.....mgflkillvfifcsfpwptiqsnletyivhvespeslistqssltldldsy	51
P69C	.....mgffkilfvfifcsfpwptiqsdletyivhvespeslittqssltldldsy	51
P69B	.....mgllkilllvfifcsfqwptiqsnletyivhvespeslvttslltdlgsyy	51
Seq_ID_24	.....	0
CUSSP	.....mssslifklffflffsnrlasrldsdgdkniyivymgrkledpd	46
Seq_ID_19	.....	0
Seq_ID_18	.....ancitmyfllltillltlnpltmaesetyiihmdlsampkafsshqnwylttl	53
Seq_ID_20	.....	0
SBT4	.....msgsrniwfpyspylvlfswalsahlylaiaqrstyivhldkslmpnvftdhhhwhssti	59
SBT3	.....mell.hlllfswalsahlflalagrstyivhldkslmpnvftdhhhwhssti	51
AG12	.....mklyngiclpylflfasciclaahasstsmekstyivhmdkshmpkaftshhnwyssiv	59
AIR3	.....mklnhfsflllllllvhmsskhilaskdsssyvvyfgahshvgeitedamdr	52
Seq_ID_21	.....vfpfffiisfcltpvtisvqsdghetfiihvsksdkprvftthhhwyssii	52
Seq_ID_22	.....ptrpvfvpfffiisfcltpvtisvqsdghetfiihvsksdkprvftthhhwyssii	56
Seq_ID_23	.....lssssssfslliffllnslvisvqldghktfivhvskshkphifttrqhwyssil	55
MDC16.3	maklsissiffvpflllclff.sp.sss.ssdglesyivhvqrshkpslfssshnnwhvsll	57
Seq_ID_27	marpgg.mvlstflml.f...hvfvhaggnqkktiyiymdksnipadfdhtlwydssl	55
SBT1	merlrl.mfllilmvvl.f...hvfvdarqnqkktiyiymdkfnpadfdhtqwydssl	55
ARA12	msssfllsstafflllclgfc.hvs.ssssdqg.tyivhmaksqmpssfdlhnwydssl	56
Seq_ID_26	.....h.....	1
SBT2	.....magmllkcmfffvsvclainlakcsptnkktiyiqmdkwakpdpvfdhvqwysslv	56
Seq_ID_28	.....	0
F22M8.3	.....mffrsfivfffliffasnvsrkqtyvihtvtstkhi	38
Seq_ID_29	.....	0
Consensus	t i h s	60
Seq_ID_40	.....G.	1
Seq_ID_39	.....G.	1
Seq_ID_25	.....G.	1
P69D	lsflpktttaisssgdeeaas.miysyhnvmkgfaarltaaqvkemekkhgfvsaqkqri	110
P69A	lsflpktttaisssgneeaat.miysyhnvmtgfaarltaaqvkemekingfvsaqkqrt	110
P69C	lsflpkttttisssgneeaat.miysyhnvmtgfaarltaaqvkemekkhgfvsaqkqri	110
P69B	lsflpktattisssgneeaat.miysyhnvmtgfaarltaaqvkemekkhgfvsaqkqri	110
Seq_ID_24	.....	0
CUSSP	sahlhhramleqvvgstfapesvlhtykrsfngfavklteeeaeiasmegvsvflnem	106
Seq_ID_19	.....	0
Seq_ID_18	asvsgssslgtesnrnsfsssklvaytnaihgfssatlspselgviknspgylsstkdm	113
Seq_ID_20	.....tprptrxptrpplrplspseykaiknslgyvssmedrt	38
SBT4	dsikasvps...svdrfhsapklvysydhvfhgfsavlskdelaalkkspgffisaykdr	116
SBT3	dsikasvps...svdrfhsapklvysydnvlhgfsavlskdelaalkklpgffisaykdr	108
AG12	dclnsekp.....ttssfytytnhvlhgfsaslsqldtltrespgfvsayrdn	109
AIR3	vkethydfllgsftgsreratdaifysytkhingfaahldhldayeiskhpevvsvfpnka	112
Seq_ID_21	rsvs.....qhpskilytyeraavgfarsltaaqadqlrripgvisvlpdev	99
Seq_ID_22	rsvs.....qhpskilytyeraavgfarsltaaqadqlrripgvisvlpdev	103
Seq_ID_23	rsvssss.....qhsakilydydaargfsarltsqgadrlrrmpgvsvvpdra	105
MDC16.21	rsllpssp.....q.patllsysravhgfsarlspiqtaalrrhpsvisvipdqa	106
Seq_ID_27	ksvs.....kganmlytytnvnhgystqltadeaksleqqpgilsvheevr	101
SBT1	ksvs.....ksanmlytytnsvihgystqltadeakalaqppgillvheevi	101
ARA12	rsis.....dsaellytyenaihgfstrltqeadslmtqpgvisvlpehr	102
Seq_ID_26	.....	1
SBT2	ksvlpstte...vektgdgeerilysyqtafhgvaaqlseeevkklqerngvlavfpeik	113
Seq_ID_28	.....	0
F22M8.3	vtslfnsllqtenindddfslpeihiyenamsgfsatltdqldtvtkntkgfisaypdel	98
Seq_ID_29	.....	0
Consensus	s y y g f a l g s	120



Figure 11B

Seq_ID_40	.....VIIGVIDTGIVPDHP.SFSDVGMPPP	26
Seq_ID_39	.....VIIGVIDTGIVPDHP.SFSDVGMPPP	26
Seq_ID_25	.....VIIGVIDTGIVPDHP.SFSDVGMPPP	26
P69D	fslhtthtspflglqnmgl.....wkdsnfgvgVIIGVlDTGIlPDHP.SFSDVGMPPP	164
P69A	lsldtthtssflglqnmgv.....wkdsnygkgVIIGVIDTGIlPDHP.SFSDVGMPPP	164
P69C	lshtthtspflglqnmgl.....wkdsnygkgVIIGVIDTGIVPDHP.SlSDVGMPPsP	164
P69B	lshtthtspflglqnmgv.....wkdsnygkgVIIGVIDTGIiPDHP.SFSDVGMPPP	164
Seq_ID_24	.....gVIIGVIDTGIFPDHP.SFSDVGMsPP	26
CUSSP	nelhttrswdfllgflptvpr.....r..sqvesnivvGVlDTGIwPesP.SFdDeGfsPP	158
Seq_ID_19	.....v.....stqsaitagDdGisev	17
Seq_ID_18	vkidttthtsqflglnsdsga.....wpksdygkdVivGlVDTGIwPesK.SynDnGMtev	167
Seq_ID_20	vkintthtshflglssmygs.....wpksnygkgVIIGVvDTGvwPeik.SFdDdGMsqv	92
SBT4	vepdttytfgyklnpssygl.....wpasglgqdmIIGVlDsGIwPesasfqdD.GiPei	170
SBT3	vephtthtsdflklnpssgl.....wpasglgqdvIvaVlDsGIwPesasfqdD.GMpei	162
AG12	atldtthtprflslnptgg1.....wpasnygedVIIGVIDsGvwPesdsfkDgmtaqv	164
AIR3	lklhttrswdfllglehnsyvpsssiwrkarfgedtIIanlDTGvwPesK.SFrDeGlgPi	171
Seq_ID_21	rhlhtthtptflgla..dsf...glwpnsdyaddVivGVlDTGIwPerP.SFSDeGlstv	153
Seq_ID_22	rhlhtthtptflgla..dsf...glwpnsdyaddVivGVlDTGIwPerP.SFSDeGlstv	157
Seq_ID_23	rqlhtthtptflgla..dsf...glwpnsdyaddVivGVlDTGIwPerP.SFSDgGlsav	159
MDC16.21	reihthtthtpaflgfs..qns...glwsnsnygedVivGVlDTGIwPeHP.SFSDsGlgPi	160
Seq_ID_27	yelhttrspftflglegresr...sfflqaearseVIIGVlDTGvwPesK.SFdDtGlgPv	157
SBT1	yelhttrspftflglegresr...sfflqaearseVIIGVlDTGvwPesK.SFdDtGlgqv	157
ARA12	yelhttrtpflflgld.ehta...dlfpeagsysdVvvGVlDTGvwPesK.SySDeGfgPi	157
Seq_ID_26	.....	1
SBT2	yqlhttrspflflgldredss...klwadrlsdhnVivGVlDTGIwPesP.SFnDsGMTsv	169
Seq_ID_28	.....	0
F22M8.3	ls1httyshflglefgig....lwnetslssdVIIGlvDTGISPeH.vSFrDthMtPv	152
Seq_ID_29	.....	0
Consensus	lhTt flgl w s viigv Dtgiwpe p sf d g	180
Seq_ID_40	PAKWKGFCES...NFTTKCNNKLIGARSFPLDNG.....PIDENGHGTH	67
Seq_ID_39	PAKWKGFCES...NFTTKCNNKLIGARSFPLDNG.....PIDENGHGTH	67
Seq_ID_25	PAKWKGFCES...NFTTKrNNKLIGARSFPLDNG.....PIDENGHGTH	67
P69D	PAKWKGvCES...NFTTKCNNKLIGARSyqLNgNs.....PIDdNGHGTH	206
P69A	PAKWKGvCES...NFTnKCNNKLIGARSyqLghGs.....PIDddGHGTH	206
P69C	PAKWKGvCES...NFTnKCNNKLIGARSyqLaNgS.....PIDddGHGTH	206
P69B	PAKWKGvCES...NFTnKCNNKLIGARSyqLNgNs.....PIDsiGHGTH	206
Seq_ID_24	PAKWKGFCES...NFTTKCNNKiIGlRSFrLsedt.....PIDtdGHGTH	68
CUSSP	PpKWKGtCet...snnfrCNrKiIGARSyhgripispg.....dvngPrDtNGHGTH	207
Seq_ID_19	PsrWKGcCESgtefnsslCNkKLIGARyFnkgllannpn...lnismnssrDtdGHGTH	73
Seq_ID_18	PsrWKGcCESgtqfnsslCNkKLIGARyFnkgliannpn...itismnsarDtdGHGTH	223
Seq_ID_20	PsrWKGiCqgtqfnsslCNkKLIGARyFnkgllskvkn...ltiminsarDteGHGTH	148
SBT4	PkrWKGiCnpgtqfnTsmCNrKLIGAnyFnkgllaedpn...lnismnsarDtnGHGTH	226
SBT3	PkrWKGiCkpgtqfnasmCNrKLIGAnyFnkgilandpt...vnitmnsarDtdGHGTH	218
AG12	PArWKGiCsr.egfnssmCNsKLIGARyFnngimaaipn...atfsmnsarDtlGHGTH	219
AIR3	PsrWKGiCqn.qkdaTfhCNrKLIGARyFnkgyaavgh...lnssfdPrDldGHGsH	226
Seq_ID_21	PssWKGkCvtgpdfpeTsCNkKiIGAqmFykgyeakh.g.pmdeskesksPrDteGHGTx	211
Seq_ID_22	PssWKGkCvtgpdfpeTsCNkKiIGAqmFykgyeakh.g.pmdeskesksPrDteGHGTH	215
Seq_ID_23	PsgWKGkCETglfdpaTsCNrKiIGARlFykgyeadr.gspideskesksPrDteGHGTH	218
MDC16.21	PstWKGcCEigpdfpassCNrKLIGARaFyrgyltqrngtkkhaakesrsPrDteGHGTH	220
Seq_ID_27	PmsWKGcCqigknfkassCNrKLIGARfFsqqgyeaafiga..idettesksPrDddGHGTH	215
SBT1	PAsWKGkCqgtgknfdassCNrKLIGARfFsqqgyeaafiga..idetiesksPrDdeGHGTH	215
ARA12	PssWKGgCEagtnftaslCNrKLIGARfFargyestmgp..ideskesrsPrDddGHGTH	215
Seq_ID_26	.....	1
SBT2	PshWKGvCetgrgfehhCskKivGARvFfrygeaasgk..inergefksarDqdGHGTH	227
Seq_ID_28	.....	0
F22M8.3	PsrWrgsCdegtnfssseCNkKiIGAsaFykgyesivgkin..ettdfrstrDaqGHGTH	210
Seq_ID_29	.....	0
Consensus	p wkg ce g f cn kligar f g sprd gHgth	240



Figure 11C

Seq_ID_40	TASTAAGAFVKGANVFGNANGTAVGVAPLAYIAIYKVCSDGV...CSDVEILAAMDVAI	124
Seq_ID_39	TASTAAGAFVKGANVFGNANGTAVGVAPLAYIAIYKVCSDGV...CSDVEILAAMDVAI	124
Seq_ID_25	TASTAAGAFVKGANVFGNANGTAVGVAPLAHIAIYKVCSDGV...CSDVEILpAMDVAI	124
P69D	TAgtAAGAFVKGVNiFGNANGTAVGVAPLAHIAvYKVCsSDGg...CSDsdILAAMDaAI	263
P69A	TASTAAGAFVnGANVFGNANGTaaGVAPfAhIAvYKVCnSDG...CaDtdvLAAMDaAI	262
P69C	TASTAAGAFVnGANVFGNANGTAVGVAPLAHIAIYKVCsSDG...CSDsdILAAMDaAI	262
P69B	TASTAAGAFVKGANVyGNadGTAVGVAPLAHIAIYKVCnSvG...CSesdvLAAMDsAI	262
Seq_ID_24	TASTAAGAFVKGANfFGNANGTAVGVAPLAHIAIYKVCsfat...CSetdaLAAMDaAI	124
CUSSP	TASTAAGglVsqaNlyGlglGTArGvPLArIAaYKVCwnDG...CSDtdILAaYDdAI	263
Seq_ID_19	TsSTAAGsyVeGAsyFGyAtGTaIGiAPkAhvAmYKalwe.eg...vylsdvLAAiDqAI	129
Seq_ID_18	TsSTAAGshVesAsyFGyArGsAtGmAPkAhvAmYKalwe.eg...tmlsdILAaiDqAI	279
Seq_ID_20	TsSTAAGslVKGAsyFGyApGfAiGVAPmAhvAvYKalwdgag...t.isdILAalDqAI	204
SBT4	sASiAAGnFaKGvshFGyAqGTArGVAPqArIAvYKfsfr.eg...sltsdliAAMDqAv	282
SBT3	cASitAGnFaKGvshFGyApGTArGVAPArIAvYKfsfn.eg...tftsdliAAMDqAv	274
AG12	AG12TAAAGnyVnGAsyFGyGgGTArGiAPrArvAvYKVtwp.eg...rytsdvLAgiDqAI	275
AIR3	TlSTAAGdFVpGvsiFGqgNGTAKGgsPrArvAaYKVCwppvkneCyDadvLAAfDaAI	286
Seq_ID_21	TASTAAGslVanAsfyqyAkGeArGmAikArIAaYKiCwknG...CfnsdILAAMDqAv	267
Seq_ID_22	TASTAAGslVanAsfyqyAk...GmAikArIAaYKiCwknG...CfnsdILAAMDqAv	267
Seq_ID_23	TASTAAGsvVanAsfFqyAkGeArGmAvkArIAaYKiCwktG...CfDsdILAAMDqAv	274
MDC16.21	TASTAAGsvVanAslyqyArGTAtGmAskArIAaYKiCwtgG...CyDsdILAAMDqAv	276
Seq_ID_27	TAtTAAGsvVtGAslFGyAaGTArGmAshArvAaYKVCwagG...CfssdILAgMDqAv	271
SBT1	TAtTAAGsvVtGAsllGyAtGTArGmAshArvAaYKVCwtgG...CfssdILAgMDqAv	271
ARA12	TsSTAAGsvVeGAsllGyAsGTArGmAPrArvAvYKVCwlgG...CfssdILAaiDkAI	271
Seq_ID_26	.....	1
SBT2	TAgtVAGsvVrGANllGyAyGTArGmAPgArvAaYKVCwvgG...CfssdILsAvDqAv	283
Seq_ID_28	.....	0
F22M8.3	TASTAAGdiVpkANyFGqAkGlasGmrftsrIAaYKaCwalG...CastdviAAiDrAI	266
Seq_ID_29	.....	0
Consensus	tastaag v gas fgya gta g ap aria ykvcw g c sdilaamd ai	300
Seq_ID_40	DDGVDILSISLGG.TS.NPFHNDKIALGAYSATERGILVSCSAGNSGPFQRTVDNDAPWI	182
Seq_ID_39	DDGVDILSISLGG.TS.NPFHNDKIALGAYSATERGILVSCSAGNSGPFQRTVDNDAPWI	182
Seq_ID_25	DDGVDILSISLGG.TS.NPFHNDKIALGAYSATERGILVSCSAGNSGPFQRTVnNDAPWI	182
P69D	DDGVDILSISLGG.st.kPFHdDgIALGtYSATERGIfvSaSAGNSGpSlgtVaNeAPWI	321
P69A	DDGVDILSISLGG.ggssdFysnpIALGAYSATERGILVSCSAGNnGPstgsVgNeAPWI	321
P69C	DDGVDILSISLGG.sp.iPlyeDsIAmGAYSATERGILVSCSAGNdGhsmgsVDNsAPWI	320
P69B	DDGVDILSmSLsG.gp.iPFHrDnIAiGAYSATERGILVSCSAGNSGpSfiTavNtAPWI	320
Seq_ID_24	DDGVDIiSaSLGG.ftnaPlHdDpIsLGAYSATEKGILaSaSAGNS.eFdnpVaNnAPWI	182
CUSSP	adGVDIiSlSvGG.anprhyfvDaIAiGsFhAvERGILtSnSAGNgGPnffTtaslsPwI	322
Seq_ID_19	tDGVDvLslSLG..idaIPlHeDpVAiaAfaALEkGIfvStSAGNeGPpyeTlhNgtPwv	187
Seq_ID_18	eDGVDIiSlSLG..iddlalyeDpVAiatfaAmEkDIfvStSAGNeGPddqalhNgtPwv	337
Seq_ID_20	adGcDILSISfGa.vSpfPlyiDpIsiasfSAmEkGIfvSvSAGNeGPFdqslsNeAPWf	263
SBT4	adGVDmiSISfs..nrfiPlyeDaIsiasfGAmmkGvLVSaSAGNrGhswgTVNgspWI	340
SBT3	adGVDmiSISyG..yrfiPlyeDaIsiasfGAmmkGvLVSaSAGNrGPgigslNngspWI	332
AG12	adGVDviSISLG..ydgvpPlyeDpIAiasfaAmEkGvvVStSAGNaGPFfgnmhNgIPWv	333
AIR3	hdGaDviSvSLGG.ep.tsFFNDsvAiGsFhAakkrIvVvCSAGNSGPadstTVsNvAPWq	344
Seq_ID_21	DDGVhviSlSvGangyaphylyDsIAiGAfgAsEhGvLVSCSAGNSGPGayTavNiAPWm	327
Seq_ID_22	DDGVhviSlSvGangyaphylyDsIAiGAfgAsEhGvLVSCSAGNSGPGayTavNiAPWm	327
Seq_ID_23	adGVhviSlSvGadgyapeydaDsIAiGAfgAsEhGvvVSCSAGNSGPGasTavNvAPWI	334
MDC16.21	adGVhviSlSvGasgSapeyHtDsIAiGAfgATrhGIvVSCSAGNSGPNpeTatNiAPWI	336
Seq_ID_27	idGVnvLslSLG..gtisdyyrDivAiGgfsAasqGIfVSCSAGNgGPsgsSlSNaAPWI	329
SBT1	idGVnvLslSLG..gtisdyHrDivAiGAfSAasqGIfVSCSAGNgGPssgTlsNvAPWI	329
ARA12	aDnVnvLsmSLG..ggmsdyyrDgvAiGAfaAmERGILVSCSAGNaGPsssslsNvAPWI	329
Seq_ID_26	.....	1
SBT2	adGVnILSISLG..ggvssynrDslsiaAfgAmEkGvfVSCSAGNgGpdpislTnvsPWI	341
Seq_ID_28	.....	0
F22M8.3	ldGVDviSlSLGG..SsrPFYvDpIAiagfgAmqknIfVSCSAGNSGptastVsnGAPWl	324
Seq_ID_29	.....	0
Consensus	dgvd s slg d iaigaf a e gi vscsagn gp t n apwi	360



Figure 11D

Seq_ID_40	LTVGASTHDRKLKATVKLGNGKEEFEGE...SAYHPKTSNSTFFTLFDVEKIVHEQPVPAPF	239
Seq_ID_39	LTVGASTHDRKLKATVKLGNGKEEFEGE...SAYHPKTSNSTFFTLFDVEKIVHEQPVPAPF	239
Seq_ID_25	LTVGASTHDRKLKATVKLGNGKEEFEGE...SAYHPKTSsSTFFTLFDVEKdgratrAPF	239
P69D	LTVGASTHDRKLKvTVKLGNSKEEFEGE...SAYHPKTSNSTFFpLyDagKnesdQfsAPF	378
P69A	LTVGASTqDRKLKATVKLGNGKEEFEGE...SAYrPKiSNSTFFaLFDagKnasdefetPy	378
P69C	LTVGASTlDRKiKATVKLGNGKEEFqGE...SAYrPqiSNSTFFTLFDaaKnasdefktPy	377
P69B	LTVGASTlDRKiKATVKLGNGKEEFEGE...SAYrPKiSNaTFFTLFDaaKnakdpsetPy	377
Seq_ID_24	LTVGASTHDRKLKATVKLGNGKEEFEGE...SAdqPKTSNSTFiaLFDagKnasdQ.dAPF	238
CUSSP	LsVaASTmDRkfvtqVqiGNqgsFqGv...SintfdnqyyplvsgrDipntgfdkstsrf	379
Seq_ID_19	LTVaAgTvDRefigTltLGNGvsvpGl...SlYpgnsSsSesslvvyve.cqddke....	238
Seq_ID_18	LTVaAgTvDRefigTlsLGNGvsvtGl...SlYpgnsSsSessivFlktcleeke....	389
Seq_ID_20	LsVaASTvDRdviriltLGNGvsvtGl...SlYpgns.tSdisvilvkncldkqe....	314
SBT4	LcVaAgftDRtfagTltLGNGlkiGw...SlfparafvrdFpviynktlsdcssdalls	397
SBT3	LcVasghtDRtfagTltLGNGlkiGw...Slfparafvrdspviynktlsdcseells	389
AG12	LTVaAgniDRsfagTltLGNDqtitGw...tmfpasaiessqlvynktisacnstells	390
AIR3	iTVGASTmDefasnlvLGNGkhykGqslsStalPhakfypimasvnakaknasaldAql	404
Seq_ID_21	LTVGASTiDRefpAdViLGdnriFgGvslySg..npltdaklpvvysgdcg.....sky	379
Seq_ID_22	LTVGASTiDRefpAdViLGdnriFgGvslySg..npltdaklpvvysgdcg.....sky	379
Seq_ID_23	LTVaASTiDRefpAdViLGdgriFgGvslySg..dplgdSkplplysgdcg.....sql	386
MDC16.21	LTVGASTvDrefaAnaitGdgkvFtGtslyag..eslpdSqlslvyvgdcg.....srl	388
Seq_ID_27	tTVGAgTmDRefpAyisLGNGkkFsGvslySg..kalpsSvmplyvagnasqasn..gnl	385
SBT1	tTVGAgTmDRefpAyigigNGkklngvslySg..kalpsSvmplyvagnvsqssn..gnl	385
ARA12	tTVGAgTlDRdfpAlaiLGNGknFtGvslfkg..ealpdkllpfiyagnasnatn..gnl	385
Seq_ID_26	.....	1
SBT2	tTVGASTmDRdfpATVeLGtgkivtGaslykgrmnlstqkqypliylgsnssnlp.P.ssl	400
Seq_ID_28	.....	0
F22M8.3	mTVaASytDRtfpAiVriGNrkslvGsslykgk.....SlknlplafnrtagEesgAvF	378
Seq_ID_29	.....	0
Consensus	ltvgast dr f atv lngng f g s s	420
Seq_ID_40	CIPGSLTDP.....	248
Seq_ID_39	CIPGSLTDP.....	248
Seq_ID_25	CIPGSLTDPsirgkivvclvgggvrtvdkgqvvdagggvgmilinnpedgvtksaeahvl	299
P69D	CsPGSLnDpaikgkivlclrsislrrvaqqgsvkdagggvgmilineqkrvgtksaeahvl	438
P69A	CrsGSLTDPvirgkivclagggvprvdkgqavkdagggvgmiiinqrsgvtksadahvl	438
P69C	CrPGSLTDPairgkivlclafggvtivdkgqavkdagggvgmiiinspddgvtkسادahl	437
P69B	CrrGSLTDPairgkivlcsalghvanvdkgqavkdagggvgmiiinspygvtkسادahl	437
Seq_ID_24	CrswamTDPaikgkivlclqkdpssltssqgrnvkdagggvgmilinnpedgvtkسadahvl	298
CUSSP	CtdkSvnpnllkgkivvceasfgpheffksldg..aagvlmtsn.....trdyadsypl	431
Seq_ID_19	lqknahkfivvcldknd....svgehvynvrnskvagavfitn...t.tdl.efylqsef	288
Seq_ID_18	leknahkfavcydtng....svsdqlynvknkvaggifitn...y.tdl.efylqsef	439
Seq_ID_20	lqnvtchkfvvcidkna....lvgkqvsvrhsnaagavfitnd..fvtdlge.ylktef	366
SBT4	qfPdqpntiicidynkledgfgfdsqifhvtqarfkaGifise....dpavfrvasft.h	452
SBT3	qvenpentivicddn..gd.fs.d.qmriitrarlkaaifise....dpgvfrsatfp.n	439
AG12	davyS...vviceait....piyaqidaitrsnvagailisn...htklfelgggvsc	438
AIR3	CklGSLdpiktkgkilvclr.gqngzvekgravalggvgmilentyvtgndlladphvl	463
Seq_ID_21	CyPGkLdpkkvagkivlclr.ggnarveksavkqaggvgmilanladsgeelvadshll	438
Seq_ID_22	CyPGkLdpkkvagkivlclr.ggnarveksavkqaggvgmilanladsgeelvadshll	438
Seq_ID_23	CyPGmLdpkskvagkivlclr.ggnarveksavklaggagmvlanladsgeelvadshll	445
MDC16.21	CyPGkLnsslvegkivlclr.ggnarveksavklaggagmilantaesgeeltadshlv	447
Seq_ID_27	CtsGSLipekvvgkivvclr.gmnaraqkgvlvkdaggigmilantdsygdelvadahl	444
SBT1	CtsGSLipekvvgkivvclr.gmnaraqkgvlvkdaggigmilantdygdelvadahl	444
ARA12	CmtGtLipekvvgkivmclr.ginarvqkgdvvkaaggvgmilantaangeelvadahl	444
Seq_ID_26	.....	1
SBT2	CldGtLdkasvagkivclr.gisprvqkgqvveaggvgmiltntaangeelvadshll	459
Seq_ID_28	.....driekqavknaggvgmilinrlqdgstksadahvl	36
F22M8.3	CIRdSLkrelvegkivclr.gasgrtakgeevkrsggaamllvsteaageelladphvl	437
Seq_ID_29	.....	0
Consensus	c g l gkiv c g v kg vk aggvgmil n g ad h l	480



Figure 11E

Seq_ID_40	.....S.....	249
Seq_ID_39	.....S.....	249
Seq_ID_25	paldvsdadgkklayi.nstsnpvaaithfgtvlgd.knapivasfssrgpseasrgil	357
P69D	paldvsnadgkklaym.nsssnpvastitfhgtvlgd.knapivasfssrgpsvaspgil	496
P69A	paldisdadgkklaym.nstsnpvatitfhgtvlgd.knapivaafssrgpsgasigil	496
P69C	paldvsdadgkklaym.nstsnpvatitfhgtvlgd.knapmvaafssrgpsraspgil	495
P69B	palvvsaadgkklaym.nstsspvatitfhgtvlgd.knapmvaafssrgpsraspgil	495
Seq_ID_24	paldvsheegekikayi.nstsnplaaithfgtvlgd.knapivasfsargpsranpgil	356
CUSSP	pssvldpndllatlrlyi.yisirspgatifiksttiln..asapvvvsfssrgpnratkdvi	488
Seq_ID_19	.....	288
Seq_ID_18	pavflnfedgdkvleyi.knshspkarlefqvtlga.kpapkvasyssrgpsescpfil	497
Seq_ID_20	psvflnfqngdqvlkyv.nstsspkakiglqgtligv.erapavahfssrgpsmtcpfil	424
SBT4	lgvvldkkekqvinvy.knsvsptatitfhgtvldt.kpavvaassargpsrsylgis	511
SBT3	pgvvvnkkekqvinvy.knsvtptatitfhgtvldt.kpavvaassargpsrsylgis	497
AG12	pclvispkdaalikya.ktdefplaglkfgetitgt.kpavvayssrgpspspgil	496
AIR3	patqltskdsfavryi.sqtkkpihitpsrtdlg.lkpavmasfsskgpsivapqil	521
Seq_ID_21	patmvqgkagdkirhyv.tsdpstativfrgtvigkspaaprvaafssrgpnhltpcil	497
Seq_ID_22	patmvqgkagdkirhyv.tsdpstativfrgtvigkspaaprvaafssrgpnhltpcil	497
Seq_ID_23	patmvqgkagdeirdyv.ksdsspkativfkgtvigkspasprvaafssrgpnhltpcil	504
MDC16.21	patmvgakagdqirdyiktsd.sptakisflgtligpspsprvaafssrgpnhltpcil	506
Seq_ID_27	ptgavqgtagxlixryi.asdsnptiatifggtklgvqp.spvvaafssrgpnhltpcil	502
SBT1	ptaavqgtagnlikgyi.asnsnptiatifggtklgvqp.spvvaafssrgpnhltpcil	502
ARA12	pattvgekagdiirhyv.ttdpnptasisilgtvvgvqp.spvvaafssrgpnhltpcil	502
Seq_ID_26	.....	1
SBT2	pavavgeregrailkya..agrsatatlrflgtklgip.spvvaafssrgpnflsleil	516
Seq_ID_28	paldvsffdgfqiteym.kstknparitfhgtvlgd.knapvlagfssrgpstaspgil	94
F22M8.3	pavslgfsdgkttllnylag.aanatasvrfrgtayg..atapmvaafssrgpsvagpeia	494
Seq_ID_29	.....	0
Consensus	pa v g i y s p a i f g t g ap va fssrgps p il	540
Seq_ID_40	.....	249
Seq_ID_39	.....	249
Seq_ID_25	kpdiigpgvnlvaawptsvd....nnkntkstfniisgtsmscp.....	397
P69D	kpdiigpgvnlvaawptsvd....nnkntkstfniisgtsmscphlsgvaallksahpd	551
P69A	kpdiigpgvnlvaawptsvd....dnkntkstfniisgtsmscphlsgvrallksthpd	551
P69C	kpdiigpgvnlvaawptsvd....dnkntkstfniisgtsmscphlsgvaallksthpd	550
P69B	kpdiigpgvnlvaawptsvd....dnkntkstfniisgtsmscphlsgvaallksthpd	550
Seq_ID_24	kpdiigpgvnlvaawpttvti....pnkntnsgfniisgtsmscph.....	398
CUSSP	kpdisgpgveilaawpsvapv....ggirrntlfniisgtsmscphitgiatyvktynpt	544
Seq_ID_19	.....	288
Seq_ID_18	kpdlmapgalilaswpqkspatqi.rsgelfsnfniisgtsmscphaagvaallkgahpk	556
Seq_ID_20	kpdlmapghlilaswplssvspy..t.elhnifniisgtsmscphaagvaalvkgthpe	481
SBT4	kpdlmapgalilaavppnipsvsi.enlqlttdyelksgtsmaaphaagiaamlkgahpd	570
SBT3	kpdlmapgalilaavppnvfatsignillstidyilesgtsmaaphaagiaamlkaahpe	557
AG12	kpdlmapgslvlawipneataqigtvnylsshymvsgtsmacphasgvaallkaahpe	556
AIR3	kpdlmapgsvviaaytgavspnteqfdpr.1lfnaisgtsmscphisgiagllktryps	580
Seq_ID_21	kpdlmapgsvnilagwtgsvgptdl.didtrrvefniisgtsmscphvgglaallrrahpk	556
Seq_ID_22	kpdlmapgsvnilagwtgsvgptdl.didtrrvefniisgtsmscphvgglaallrrahpk	556
Seq_ID_23	kpdlmapgsvnilagwtgsvgptdl.eidtrrvefniisgtsmscphvgglaallrkaypk	563
MDC16.21	kpdlmapgsvnilagwtgsvgptdl.didprrvqfniisgtsmscphvgglaallrkahpd	565
Seq_ID_27	kpdlmapgsvnilagwtgkvgtptgl.pedtrnvgnfniisgtsmscphvgglaallkaahpe	561
SBT1	kpdlmapgsvnilagwtgkvgtptgl.qedtrnvgnfniisgtsmscphvgglaallkaahpe	561
ARA12	kpdlmapgsvnilagwtgaagptgl.asdsrrvefniisgtsmscphvgglaallksvhpe	561
Seq_ID_26	.....	1
SBT2	kpdlmapgsvnilagwtgalgsssl.pidqrtrnfniisgtsmscphvggiaallkarhpd	575
Seq_ID_28	kpdiigpgvnlvaawptsvenktn....tkstfniisgtsmscphlsgvaallksahpt	149
F22M8.3	kpdiiaapgnilagwspfsfp.sllrsdprrvqfniisgtsmacphisgiaaliksvhgd	553
Seq_ID_29	.....	0
Consensus	kpdl apgvnila w v fniisgtsmscph sg aallk hp	600



Seq_ID_40	.....	249
Seq_ID_39	.....	249
Seq_ID_25	.....	397
P69D	wspaaiksammттadtvnlnanspilde.r...lisadlfamgaghvnpsrasdpglvydt	607
P69A	wspaaiksammттadtlnlnanspilde.r...llpadiyaigaghvnpsrandpglvydt	607
P69C	wspaaiksaimттadtlnlnanspilde.r...llpadifatgaghvnpsrandpglvydi	606
P69B	wspaviksammттadtlnlnanspilde.r...llpadiyaigaghvnpsrandpglvydt	606
Seq_ID_24	.....	398
CUSSP	wspaaiksalmттaspmn.....a.r...fnpqaeafaygsgshvnplkavrpglvyda	592
Seq_ID_19	.....p.....	289
Seq_ID_18	wspaaairsammттadtmdnmqmpirdi.gr.nnnaasplamgagrinpnkaldpgliydi	614
Seq_ID_20	wspaaairsammттadvldntqspiqli.grpenaaatplamgaghinpnkaidpgliyd	540
SBT4	wspsaairsammттanhlnsaqdpite...dddmvaspplgigsgshvdpnraldpglvyda	626
SBT3	wspsaairsammттadpldntrkpkids...dnnkaatpldmgaghvdpnraldpglvyda	614
AG12	wspaaairsammттанpldntlnpihen.g.kkfhlaspamgaghidpnraldpglvyda	614
ATR3	wspaaairsaimттatimddipgpigna.tn...mkatpfsfagghvqpnlavnpglvydl	636
Seq_ID_21	wtpaavksalmттaynldnsgkvftdl.a..tgqestpfvghsgshvdpnraldpgliydi	613
Seq_ID_22	wtpaavksalmттaynldnsgkvftdl.a..tgqestpfvghsgshvdpnraldpgliydi	613
Seq_ID_23	wttaaiksalmттaynldnsgkftdl.a..tgqesspfvghsgshvdpnraldpglvydi	620
MDC16.21	wspaaiksalmттaydvnsgepietl.a..tgksnsfihgaghvdpnraldpglvydi	622
Seq_ID_27	wsxgvirsalmттgysthkngxmiedv.a..tgmsytpvdhgaghvnpaamnpglxydl	618
SBT1	wspaaairsalmттsystyknkgtiedv.a..tgmsstpfdygaghvnptaavspglvydl	618
ARA12	wspaaairsalmттayktykdgkplldi.a..tgkpstpfhdgaghvspttatnpgliyd	618
Seq_ID_26	.....asdgaghinprkavdpglvydi	23
SBT2	wspaaiksalmттayvhdntykslkda.s..svtpstpydhgaghvnprkavdpgliydi	632
Seq_ID_28	wspaaiksaimттadtvnlnannpilde.mlr...panifaigaghvnpsrandpglvydt	205
F22M8.3	wspamiksaimттaritdnrrnpigdrgaagaesaataafafgagvndptravdpglvydt	613
Seq_ID_29	.....aitaghvnpesaidpgliyd	21
Consensus	wspaai sa mtta pi d gaghv p a dpglvyd	660
Seq_ID_40	.....	249
Seq_ID_39	.....	249
Seq_ID_25	.....	397
P69D	pfedyipylcglnyt...nrevgkvlqrkvncsevkripegqlnypsfsirlg.s....	658
P69A	pfedyvpylclnyt...nrqvgnllqrkvncsevkisileaqlnypsfsiylgls....	659
P69C	pfedyipylcglnyt...nrqvgnllqrrvncsevkiileaqlnypsfcitelgls....	658
P69B	pfedyvpylclkyt...dqvgvnlqrrvncsevkisileaqlnypsfsiflgls....	658
Seq_ID_24	.....	398
CUSSP	nesdyvklcgqgyn...tqavrritgdysactsgntgrvwdlnypsfglsvsps....	644
Seq_ID_19	.....	289
Seq_ID_18	tsqdyinllcaldft...sqqikaitrssayscsnss...ldlnypsfigyfnyssesd	668
Seq_ID_20	tpqdyinllcalnlt...seqiktitrss.ytcnpns...ldlnypsfiayfnvnsseld	593
SBT4	tpqdyinlicslnft...eeqfktfarssanyhncsn.psadlnypsfiayfysqegny	682
SBT3	tpqdyvnlclslnft...eeqfktiarssas.hncsn.psadlnypsfiayfysi..egn	667
AG12	tpqdyinllcsmnyn...kaqilaivrdsy..tcsndpsdlnypsfiayfnhns...tc	665
ATR3	gikdyinllcslgyn...asqisvfgsnftcspk.islvnlnypsitvplnts....	687
Seq_ID_21	etsdyvnflcsigdygddvavfardssrvn.crserslatpgdlnypsfsfvftge....	667
Seq_ID_22	etsdyvnflcsmaydgddvavfardssrvn.crserslatpgdlnypsfsfvftge....	667
Seq_ID_23	dtkdyvdlfcaigydpkrispfvkdtsvn.cseknlvspgdlnypsfsfvvf.g.....	672
MDC16.21	evkeyvafllcavgyefpgilvflqdpitydacetsklrtagdlnypsfsfvvf.a.....	675
Seq_ID_27	tvddyinlclaldy...spsmikviakrdisxcnnkdiellithllpflwkrawgeha	675
SBT1	tvddyinlclaldy...spsmikviakrdisxcnkeyrvadlnypsfsipmetawgeha	675
ARA12	ttedylgflcalnyt...sp.qirsvsrrnytcdpksysvadlnypsfsavndvgv.g..a	672
Seq_ID_26	gaqdyfelfctqqls...psqltvfgkfsnrthhslanpgdlnypaisavfpedakvs.	79
SBT2	gaqdyfelfctqels...psqlmvfgkfsnrthhslanpgdlnypaisavfpcktks.	688
Seq_ID_28	qfkdyisylcglkytdr...qmgslilqrtscksvksipeaqlnypsfsislgan....	257
F22M8.3	stvdylnylclslnytserillfsgtnytcasnavls..pgdlnypsfsavnlvng....	666
Seq_ID_29	dtstdylnllcslnytekemklftnes...npcsgftgspdlndlnypslsvmfrpd....	72
Consensus	dy lc l y c dlnypsf	720



Figure 11G

Seq_ID_40	.....	249
Seq_ID_39	.....	249
Seq_ID_25	.....h.....	398
P69D	.....tpqytyrtvtvnvgdakssykveiv.spkgvkvkvepsalnfstlnqklyqvift	712
P69A	.....tpqytyrtvtvnvgdakssykveva.spealpskltr..anfssdqklyqvtf	711
P69C	.....rlfertli.....	666
P69B	.....tpqytyrtvtvnvgdatssykveva.spegvaievepselnfstlnqklyqvtf	712
Seq_ID_24	.....	398
CUSSP	...qtfnqyfnrtiltsvapqastyramis.apqgltisvnpn...vlsfnglgdrksftl	697
Seq_ID_19	.....	289
Seq_ID_18	...pkriqefqrtvtvnvgegmsvytaklt.smgdykasvapdklvfkekyekqsyklrie	724
Seq_ID_20	...ptrvqefkrtvtvnvgegvseytaelt.ampglkvsvvpeklvfkdkeyekqsyklrie	649
SBT4	...pwleqkfrtrtltnvgkkgatykvkie.spknstisvspqtlvfknknekqsytltir	738
SBT3	...tlleqkfrtrtltnvgkgaatykaklk.apknstisvspqtlvfknknekqsytltir	723
AG12	...rrsvntfqrvtvnvgdgaatykatvt.apkdsrvivspqtlafgskyekqsynltii	721
AIR3	.....skvtvsrtvknvgrp.smytkvkn.npggvvavkptslnftkvgeqktfkvilv	740
Seq_ID_21	..sng.vvkykrvvnvgnvkntdavyevkvnapssevnvvpaklvfseekqslsyelsk	724
Seq_ID_22	..sng.vvkykrvvnvgnvkntdavyevkvnapssevnvvpaklvfseekqslsyelsk	724
Seq_ID_23	..sds.vvknkrvvnvgnvgrntnavyevkinapgsvevkvtpklfsfeknkslsyelsfs	729
MDC16.21	..stgevvkykrvvnvgnvgnvkntdavyevgvkspanveidvpsklafskeksvleyevtfk	733
Seq_ID_27	nssaptvtrytrtltnvgnpatykasvss.emqevkiqvepqtltfsrkkekktvtvft	734
SBT1	dsstptvtrytrtltnvgnpatykasvss.etqdvkilvepqtltfsrknekktvtvft	734
ARA12	.....y.kytrtvtsvggagtysvkvts.ettgvkisvepavlnfkeanekksytvtft	724
Seq_ID_26	.....tltlhrtvtvnvgspisnyhvrvs.pfkgavvkvepsrlnftskhqklsykwife	132
SBT2	.....mltlhrtvtvnvgspisnyhvvs.afkgavvkveperlnftsknqklsykvtfk	741
Seq_ID_28	.....qqtytrtvtnvgeamssyrvkivs.pqnvsvvvpstlklftklngklyrvtf	310
F22M8.3	..anlktvrykrtvtvnvgspptceymvhve.epkgvkvrvpekvlfqkarerlsytvyd	723
Seq_ID_29	..ssvhvvrkrtlthvavskpevykvkilnlnsekvslsispmlmfneslrkqymvkfe	130
Consensus	rtvtvnvg y p v p l f k y	780
Seq_ID_40	.....	249
Seq_ID_39	.....	249
Seq_ID_25	.....	398
P69D	kttnis.....ttsdvegflkwnsnrhsrvrspiavrvsae.....	747
P69A	ktanss.....nteviegflkwtsnrhsrvrspiallliq.....	745
P69C	.....	666
P69B	kttnss.....npeviegflkwtsnrhsrvrspiavvsa.....	745
Seq_ID_24	.....	398
CUSSP	tvrgsi.....kgfvvsaslvwsdgvyhvrspititslv.....	731
Seq_ID_19	.....	289
Seq_ID_18	gpllv.....diilfmvl.....	737
Seq_ID_20	cpqlmn.....dflvhgslswvekggkyvvrspivatns.....	683
SBT4	yrqdfn.....sgqtgsitwvekngrsvrspiavlthttvdlwgaed.....	779
SBT3	yigdegq.....srnvgsitwveqngnhsrvspivtspiievw.....	761
AG12	nfrtdtk...rkdisfgalvwanengkhnrvspivvsplrind.....	761
AIR3	ksgkn.....vakgyvfgelvwsdkkhrvrspiivkl.....	772
Seq_ID_21	skks.gdlqmvkgiesafgsiiewsdgihnvrspiavrrrhysdaasm.....	770
Seq_ID_22	skks.gdlqmvkgiesafgsiiewsdgihnvrspiavrrrhysdaasm.....	770
Seq_ID_23	sngsvg.lervkglesafgsiiewsdgihsrvspiavhllhsatesq.....	775
MDC16.21	svvlggvgvsvpghe..fgsiewtdgehvvkspvavqwgqgs.vqsf.....	777
Seq_ID_27	a.ss.....kpsgtts.farlewsdgqhvvvaspiafswt.....	766
SBT1	a.ts.....kpsgtts.farlewsdgqhvvvaspiafswt.....	766
ARA12	vdss.....kpsgsns.fgsiiewsdgkhvvgspvaiswt.....	757
Seq_ID_26	tkyr.....qkare..fgsllwkdgthkvrstivitwlasl.....	166
SBT2	tvsvr.....qkape..fgsliwkdgthkvrspiavtulasv.....	775
Seq_ID_28	tttn.....itnmevvhgyklwtsdkhfvrspiavilqehetped.....	350
F22M8.3	aeasrn.....sssssfglvwicdkynvrspiavtwe.....	756
Seq_ID_29	shhifnss.rkiaeqmafgsiswesekhnvrspfavmvvqqnfnsrlykit	181
Consensus	g w g h vrs pia	840



TMV-SeqID 3 (-)

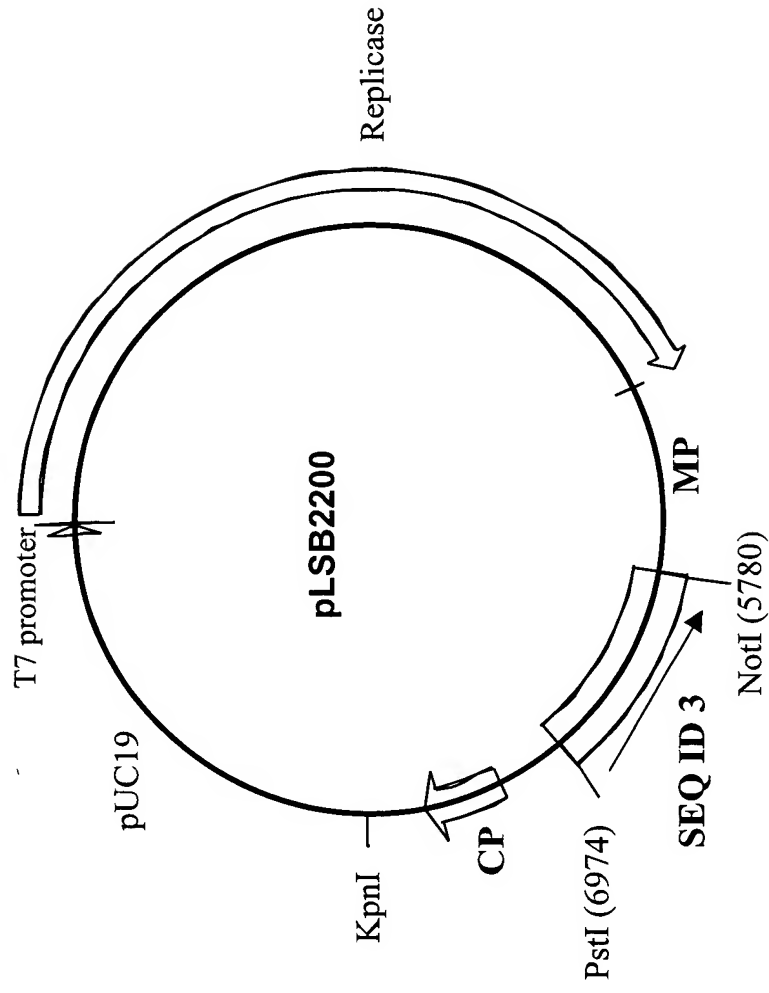


FIGURE 12A

TMV-SeqID 3 (+)

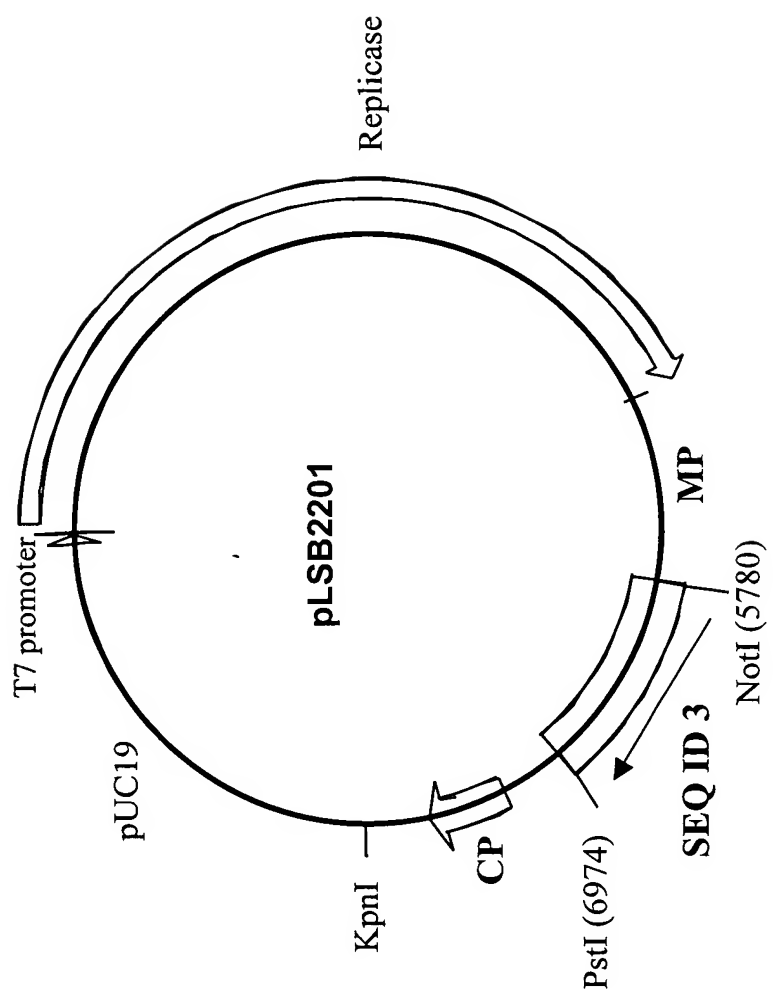


FIGURE 12B



1 2 3

FIGURE 13



TRV RNA-2 SeqID 3 (+/-)

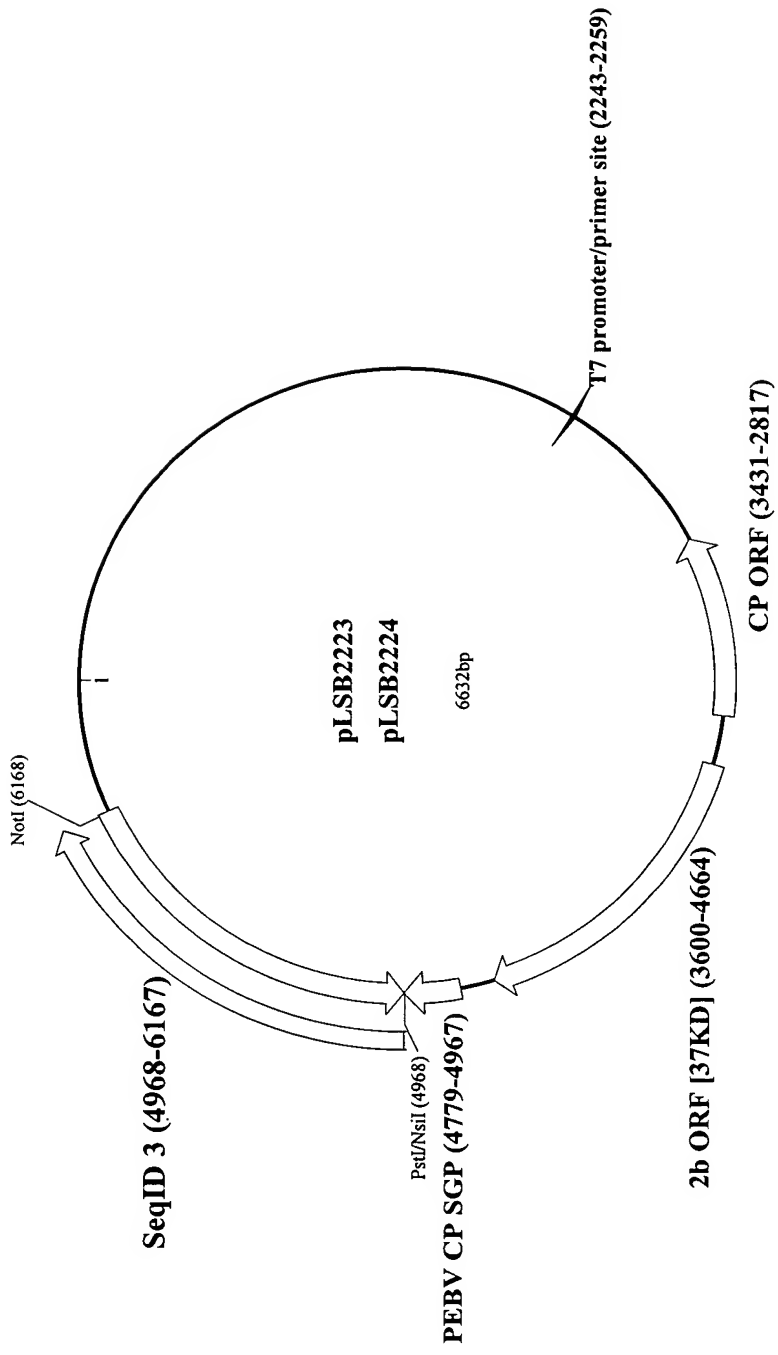


FIGURE 14

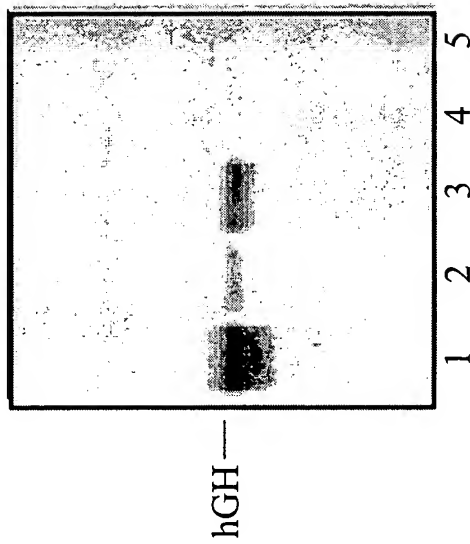


FIGURE 15



Figure 16AA

Seq_ID_17	.....	0
Seq_ID_7	.....	0
Seq_ID_11	.....	0
Seq_ID_14	.....	0
Seq_ID_15	.....	0
Seq_ID_4	.....	0
Seq_ID_3	.....	0
Seq_ID_10	gctagcacccaacccctctctaccaaaggaaagaactcttcctttcagtagagaact	60
Seq_ID_5	.....	0
Seq_ID_8	.....	0
Seq_ID_16	.....	0
Seq_ID_13	.....	0
Seq_ID_12	.....	0
Seq_ID_9	.....	0
Seq_ID_6	.....	0
Consensus		

Seq_ID_17	GGCCAATTGTATTACTATGTATTTCTTGCTCCTTACTATCTTATTACTTACTCTAAATCC	60
Seq_ID_7	.....	0
Seq_ID_11	.....	0
Seq_ID_14	.....	0
Seq_ID_15	.....	0
Seq_ID_4	.....	0
Seq_ID_3	.....	0
Seq_ID_10	tcCattTTcTggTtaccTGacacTgagaacCgcaAaaAgaTggcaAgaccCgggggcatg	120
Seq_ID_5	.....ccCacGCgtCcggtTtTtccATTctTTttcaTtAtTa.	37
Seq_ID_8	.....gtTtTtccATTctTTttcaTtAtTa.	25
Seq_ID_16	.....CacttTCtTcgtctTCTTcTTctTTctcCctctTaa	36
Seq_ID_13	.....	0
Seq_ID_12	.....	0
Seq_ID_9	.....	0
Seq_ID_6	.....	0
Consensus		

Seq_ID_17	ATTAACATATGGCAGAGTCAGAAACTTATATCATCCATATGGACTTATCAGCCATGCCTAA	120
Seq_ID_7	.....	0
Seq_ID_11	.....	0
Seq_ID_14	.....	0
Seq_ID_15	.....G.....	1
Seq_ID_4	.....	0
Seq_ID_3	.....	0
Seq_ID_10	gTTcttTcaacactAtTCctAAtgTTgTtTCATgtgTtTGttCaTgcagGCCAgaaCcAg	180
Seq_ID_5	tcTcttTcTGcCtcAcTCcGgtgaccATtTCcgtCcaATccgaTggTCatgaAacttTcA	97
Seq_ID_8	tcTcttTcTGcCtcAcTCcGgtgaccATtTCcgtCcaATccgaTggTCatgaAacttTcA	85
Seq_ID_16	tcTtctTcTttCtcAactctttAgTaATtTCAGtCcaATtGgacggTCataaAacttTcA	96
Seq_ID_13	.....	0
Seq_ID_12	.....	0
Seq_ID_9	.....	0
Seq_ID_6	.....	0
Consensus		



Figure 16AB

Seq_ID_17	AGCTTTTTCTAGCCATCAGAATTGGTACTTGACCACTCTTGCTTCTGTATCAGGTAGTTC	180
Seq_ID_7	.....	0
Seq_ID_11	.....	0
Seq_ID_14	.....	0
Seq_ID_15	.....	1
Seq_ID_4	.....	0
Seq_ID_3	.....	0
Seq_ID_10	AaaaagactTAcataatAacATGGacaagtcCaACatacctgctgaTtTtgatgAtcaC	240
Seq_ID_5	tcaTTcacgTttCCAaatccgaTaagcCccGtggtttTCaccaccCaccAcCAttggtact	157
Seq_ID_8	tcaTTcacgTttCCAaatccgaTaagcCccGtggtttTCaccaccCaccAcCAttggtact	145
Seq_ID_16	tagTacacgTgtCCAaatcccaTaagcCccacatctTtactaccCgccAaCAttggtact	156
Seq_ID_13	.....	0
Seq_ID_12	.....	0
Seq_ID_9	.....	0
Seq_ID_6	.....	0
Consensus		
Seq_ID_17	AAGTCTTGGAACTGAAAGTAATAGAAATTCCTTTTCCTCATCAAACTA..GTATATGCT	238
Seq_ID_7	.....	0
Seq_ID_11	.....ACcc..cTcgAccna	13
Seq_ID_14	.....	0
Seq_ID_15	.....	1
Seq_ID_4	.....	0
Seq_ID_3	.....	0
Seq_ID_10	ActctgTGGtAtgactcaTctTtaAagTcagTaTcCaaaggCgccAacAtgcTtTAcACc	300
Seq_ID_5	cctcCaTcatcCgatccGT.....ttcccaaCaCccttctAaaAtccTcTAcACc	207
Seq_ID_8	cctcCaTcatcCgatccGT.....ttcccaaCaCccttctAaaAtccTcTAcACc	195
Seq_ID_16	cctcCaTcctcCgatcAGTctcttct.TcttcccaaCaCtctgccAaaAtccTtTActCT	215
Seq_ID_13	.....	0
Seq_ID_12	.....	0
Seq_ID_9	.....	0
Seq_ID_6	.....	0
Consensus		
Seq_ID_17	TACACTAACGCTATTCATGGTTTTAGTGCAACTCTTCTCCTTCTGAGCTACAAGTTATA	298
Seq_ID_7	.....	0
Seq_ID_11	cgCgncngC.CcAcgCgTccgcccAcgcgtcCgCTTCTCCTTCcGAGtacaAAGccATc	72
Seq_ID_14	.....	0
Seq_ID_15	.....	1
Seq_ID_4	.....	0
Seq_ID_3	.....	0
Seq_ID_10	TACAacAAtGtcATcCATGGcTactcaaCAcagCTaaCagCTgaTGAagccaAAtcTcTt	360
Seq_ID_5	TAtgaacgtGCcgccgtgGGcTTctcTGCAcgcCTcaCagCcgCTcAGgccgAtcagcTc	267
Seq_ID_8	TAtgaacgtGCcgccgtgGGcTTctcTGCAcgcCTcaCagCcgCTcAGgccgAtcagcTc	255
Seq_ID_16	TACgaTtAtGCTgccCgTGGTTTTctcTGCCcgTCTcaCTtCcgggcAGgctgAccggcTc	275
Seq_ID_13	.....	0
Seq_ID_12	.....	0
Seq_ID_9	.....	0
Seq_ID_6	.....	0
Consensus		



Figure 16AC

Seq_ID_17	AAAAATTCTCCAGGCTATCTTTCTTCAACTAAGGACATGACAGTTAAAATTGACACGACA	358
Seq_ID_7	.....	0
Seq_ID_11	AAgAATTCTCtAGGgTATgTTTCTTCgAtggAGGACAgGACAGTTAAAATTcACACGACC	132
Seq_ID_14	.....	0
Seq_ID_15	.....	1
Seq_ID_4	.....	0
Seq_ID_3	.....	0
Seq_ID_10	gAAcAgcaaCCtGGaatTCtTCggtccaTgAGGAagTGAgAtacgAgcTTcAtACcAct	420
Seq_ID_5	cgccgTatTCCcGGtgtaaTcTCcgtcctTcccGACgaagtAcgccAtcTccACACcACc	327
Seq_ID_8	cgccgTatTCCcGGtgtaaTcTCcgtcctTcccGACgaagtAcgccAtcTccACACcACc	315
Seq_ID_16	cgccgcatgCCtGGCgtggTcTCcgtcgtacctGACcgtgCacgTcAgcTTcACACcACT	335
Seq_ID_13	.....	0
Seq_ID_12	.....	0
Seq_ID_9	.....	0
Seq_ID_6	.....	0
Consensus		
Seq_ID_17	CACACGTCTCAATTCCCTTGGCCTAAATTCCGATTCTGGTGCATGG..CCAAAGTCAGACT	416
Seq_ID_7	.....	0
Seq_ID_11	CAttCaTCCcCatTTCCCTTGGCCTAAGcTCaatgTaTGGTtCATGG..CCAAAGTCaaACT	190
Seq_ID_14	.....	0
Seq_ID_15	.....	1
Seq_ID_4	.....	0
Seq_ID_3	.....	0
Seq_ID_10	CgatCccCTacATTtCTgGGaCTtgAaggacgTgaaaGTaaATcattCtttctTCAagCT	480
Seq_ID_5	CAtACccCTaccTTCTtTgGGaCTtgcTgaCtcTTtcGGccttTGG..CCcAAcTCcGAT	385
Seq_ID_8	CAtACccCTaccTTCTtTgGGaCTtgcTgaCtcTTtcGGccttTGG..CCcAAcTCcGAT	373
Seq_ID_16	CACACacCgaccTTCTtTaGGCCTcgcagattcaTtTGGgcttTGG..CCcAAcTCcGAT	393
Seq_ID_13	.....	0
Seq_ID_12	.....ctCcgAtcgaatcctaaGTctAaattgCCAAgtTtgctag	41
Seq_ID_9	.....	0
Seq_ID_6	.....	0
Consensus		
Seq_ID_17	ATGGCAAA...GATGTTATAGTTGGATTAGTTGACACA.GGGATTTGGCCAGAGAGTAA	471
Seq_ID_7	.....t.GGtATcaacgCAGAGtGccA	21
Seq_ID_11	ATGGCAAA...GgTGTATcaATTGGtgTAGTTGAtACA.GGGgTTTGGCCAGAGAtTAA	245
Seq_ID_14	.....GgcGTgATtaTcGGAgTtaTaGACAct.GGaATTgttCCtGAccaTcc	47
Seq_ID_15	.....GgcGTgATtaTcGGAgTtaTaGACAct.GGaATTgttCCtGAccaTcc	48
Seq_ID_4	.....GgcGTgATtaTcGGAgTtaTaGACAct.GGaATTgttCCtGAccaTcc	47
Seq_ID_3	.....GgcGTgATtaTcGGAgTtaTaGACAct.GGaATTtCcCtGAccaTcc	47
Seq_ID_10	gaaaCAaggagtGAGGTcATtaATTGGtgTgcTgGACAct.GGtgTTTGGCCtGAatcaAA	539
Seq_ID_5	AcGctgAt...GATGTcATcGTcGGAgTtcTgGACACg.GGtATaTGGCCgGAaAGacc	440
Seq_ID_8	AcGctgAt...GATGTcATcGTcGGAgTtcTgGACACg.GGtATaTGGCCgGAaAGacc	428
Seq_ID_16	AcGctgAt...GAcGTcATcGTcGGggTgcTcGACACg.GGcATTTGGCCcGAaAGgcc	448
Seq_ID_13	.....	0
Seq_ID_12	AgccagAAatctctcaagtgccccGaAgcctTgagCgCgaGGtgccTGGCCttAatcagA	101
Seq_ID_9	.....	0
Seq_ID_6	.....	0
Consensus	g gt at t ggagt t gacac gg attt cc ga c	
	Conserved Region A	



Figure 16AD

Seq_ID_17	AAGCTAT.AATGATAATGGGATGACTGAAGTTCCATCAAGATGGAAAGGAGAATGTGAAA	530
Seq_ID_7	ttaCggccgggGATgATGGGATtAgTGAAGTaCCATCAAGATGGAAAGGAGAATGTGAAA	81
Seq_ID_11	AAGCTtT.gATGATgATGGGATGAgccAAGTTCCATCAAGgTGGAAAGGAatATGTcAAA	304
Seq_ID_14	ttcaTtT.AgcGAcgtTGGGATGcTcctccgCctgCtAaATGGAAAGGAtttTGTGAgT	106
Seq_ID_15	ttcaTtT.AgcGAcgtTGGGATGcTcctccgCctgCtAaATGGAAAGGAtttTGTGAgT	107
Seq_ID_4	ttcaTtT.AgcGAcgtTGGGATGcTcctccgCctgCtAaATGGAAAGGAtttTGTGAgT	106
Seq_ID_3	ttcaTtT.AgcGAcgtTGGGATGtCTcccccgCctgCtAagTGGAAAGGAtttTGTGAgT	106
Seq_ID_10	AAGtTtT.gATGAcAcTGGAcTaggTccAGTcCctatgAGcTGGAAgGGtGAGTGccAAA	598
Seq_ID_5	gAGtTtT.tccGAcgAgGGtcTctCTacgGTTCCtTCAAGtTGGAAAGGgaAgTGcGttA	499
Seq_ID_8	gAGtTtT.tccGAcgAgGGtcTctCTacgGTTCCtTCAAGtTGGAAAGGgaAgTGcGttA	487
Seq_ID_16	gAGCtTtT.tccGAcggcGGGcTttCTGcAGTcCctTCcgGtTGGAAAGGAaAATGcGAAA	507
Seq_ID_13	.....	0
Seq_ID_12	AAGCTtT.AtTGATgAaGaatTGGgaccAaTTCCATCtAagTGGAgAGGgattTaccAAAA	160
Seq_ID_9	.....	0
Seq_ID_6	.....	0
Consensus	ttt gacg tggg t ct c t cct c a tggaaagga tg ga a	
	Conserved Region A	

Seq_ID_17	GTGGAACTCAATTTAATTCCTCTTTATGCAACAAGAACTCATTGGTGCGCGTTACTTCA	590
Seq_ID_7	GTGGtACTgAgTtCtAATTCCTCTTTgTgTAACAAGAAgCTCATTGGcGctCGTTACTTCA	141
Seq_ID_11	cTGGcACTCAgTTTAATTCtTCaTtTGCAACAAGAACTCATcGGaGctCGTTACTTCA	364
Seq_ID_14	cTaatttcacgaccAA.....gTGTAAACAACAACTCATTGGaGCcaGgTctTTC.	156
Seq_ID_15	cTaatttcacgaccAA.....gTGTAAACAACAACTCATTGGaGCcaGgTctTTC.	157
Seq_ID_4	cTaatttcacgaccAA.....gcGtAACAACAACTCATTGGaGCcaGgTctTTC.	156
Seq_ID_3	ccaatttcacgacaAA.....gTGTAAAcAAGaTCATaGGactcaGgTctTTt.	156
Seq_ID_10	tTGGcAagaAcTTcAAagCaTCAagcTGtAAcCgGAACTCATTGGTGcAaGgTttTTCt	658
Seq_ID_5	cTGGAcCTgAtTTTccTgaaaCcTcATGtAatAAAAaTCATaGGcGCTCaaatgTTtt	559
Seq_ID_8	cTGGAcCTgAtTTTccTgaaaCcTcATGtAatAAAAaTCATaGGcGCTCaaatgTTtt	547
Seq_ID_16	cTGGGctggAcTTTccTgCaaCTTcATGtAAcCgtAAAAaTCATcGGTGCTCGaTtgTTtt	567
Seq_ID_13	.....	0
Seq_ID_12	aTaattCTgAtcacAcc...TtTTagTGCAaAgGAAgCTaATTGGaGcAaGgTACTTCA	217
Seq_ID_9	.....	0
Seq_ID_6	.....	0
Consensus	ct a aa tgaacaa aaactcat gg gc g t ttc	

Seq_ID_17	ACAAAGG.....CCTAATTGCCAATA...ATCCGAATATTACCATCTCGATGAATTTCAG	641
Seq_ID_7	AtAAAGG.....CCTAcTTGCCAAcA...ATCCaAATcTTAatAtTtCaATGAATTCTt	192
Seq_ID_11	AtAAAGG.....aCTAcTTtCtAAag...tgaaaAATcTTACCATCatGATaAATTCTg	415
Seq_ID_14	.....CcgcT...tgAc.....AATgggtc	172
Seq_ID_15	.....CcgcT...tgAc.....AATgggtc	173
Seq_ID_4	.....CcgcT...tgAc.....AATgggtc	172
Seq_ID_3	.....CgAtTatCtgAa.....gATaCcc	175
Seq_ID_10	cacAAGGttatgaagcAgcTttCgggg...caattgATgagACCAcagaatccAAGTCAC	715
Seq_ID_5	ACAAAGGgtatgaagctAaacatgg...cccaatGgATGaatCaAaagaatcaAAaTCgc	616
Seq_ID_8	ACAAAGGgtatgaagctAaacatgg...cccaatGgATGaatCaAaagaatcaAAaTCgc	604
Seq_ID_16	ACAAAGGttacgaagctgaTcgtggaAgcccaattgAcgaatCtAaagaatctAAaTCgc	627
Seq_ID_13	.....	0
Seq_ID_12	ACgAAGGatacgtgactcTaGCaAgat.....cTcTcAattcaagttTctAcaCAC	268
Seq_ID_9	.....	0
Seq_ID_6	.....	0
Consensus	aagg c t tg aa c c	



Figure 16AE

Seq_ID_17	CTCGTGACACTGATGGGCATGGAACCTCACATCCTCTACAGCTGCAGGAAGTCATGTAG	701
Seq_ID_7	CTaGaGAtACcGATGGaCATGGAACCTCACActTcTCTACAGCTGCgGGAAGTtATGTtG	252
Seq_ID_11	CcCGTGAtACaGAgGGaCATGGAACCTCatActTCCTCTACAGCTGCtGGAAGTctTGTAa	475
Seq_ID_14	CcataGAtgaaaATGGaCATGGtACgCatACAgCaagcACAGCTGCAGGAgccttTGtGa	232
Seq_ID_15	CcataGAtgaaaATGGaCATGGtACgCatACAgCaagcACAGCTGCAGGAgccttTGtGa	233
Seq_ID_4	CcataGAtgaaaATGGaCATGGtACgCatACAgCaagcACAGCTGCAGGAgccttTGtGa	232
Seq_ID_3	CgataGAtACTGATGGaCATGGtACaCACActgCtagcACAGCTGCAGGAgcTttTGtGa	235
Seq_ID_10	CaaGgGACgaTGATGGcCATGGgACaCACActgCaaCTACAGCaGctGGctcggtTGTAa	775
Seq_ID_5	CaaGaGAtACTGAaGGaCATGGAACaCatACAgCaTcaACAGCaGctGGttcTttaGTgG	676
Seq_ID_8	CaaGaGAtACTGAaGGaCATGGAACanAtACAgCaTcaACAGCaGctGGttcTttaGTgG	664
Seq_ID_16	CaaGaGAtACTGAaGGaCATGGgACTCACActgCtTcaActGCaGctGGAtcTgtTGTAAG	687
Seq_ID_13	.....	0
Seq_ID_12	CaCGaGACACTGATGGaCATGtttCcCACACGcagTtcAagGaTcaAGtggtTCccGgta	328
Seq_ID_9	.....	0
Seq_ID_6	.....ggCCatTACgGCCGggcacgtgaATcctG	29
Consensus	<i>c agagatac gatggacatgg ac ca ac gc acagctgc gga ct ttgt</i>	
Conserved Region B		

Seq_ID_17	AATCTGCATCTTATTTTGGCTATGCGCGTGGTTCTGCTACAGGGATGGCACCAAAGGCTC	761
Seq_ID_7	AaggTGATCTTATTTTGGCTATGCcaccGGTaCTGCTAttGGcATaGCgCCAAAGGCTC	312
Seq_ID_11	AaggTGCGTCTTATTTTGGCTATGCcCtTGGTtTGCaAtAGGcgTcGCACCAATGGCTC	535
Seq_ID_14	AAggTGCTaaTgtaTTTGGgaATGCCaaTGGaaCaGcagttGGtgTtGCCcCtcttGCgt	292
Seq_ID_15	AAggTGCTaaTgtaTTTGGgaATGCCaaTGGaaCaGcagttGGtgTtGCCcCtcttGCgt	293
Seq_ID_4	AAggTGCTaaTgtaTTTGGgaATGCCaaTGGaaCaGcagttGGtgTtGCCcCtcttGCgC	292
Seq_ID_3	AAggTGCCaaTTtctTTTGGtaATGCaTGGCaCaGcagttGGtgTtGCCcCtcttGCCc	295
Seq_ID_10	cgggaGCTagcctcTTTGGtTATGCTgcTGGCaCaGcagtgGGATGGCttCAcAtGCaa	835
Seq_ID_5	cAaaTGCTagcTtTTaccCaTATGCCaaaGGT.....ATGGCtatAAAAGCaa	724
Seq_ID_8	cAaaTGCTagcTtTTaccCaTATGCCaaaGGTgaaGCTAgAGGtATGGCtatAAAAGCaa	724
Seq_ID_16	ctaacGCTagTTtTTTcaaTAcGCaaaGGTgaaGCTAgAGGcATGGCtggtAAaGCTC	747
Seq_ID_13	.....	0
Seq_ID_12	tggaaa.....TGGaacaGCAaagGGTggatCacCAaaagTaagAgtAgcaGCTt	378
Seq_ID_9	.....cccaGcggtCcgATGGTgCaG.gACAcataAatCcaCgAAaagct	44
Seq_ID_6	AATCGCTatTgATccgGGCctaataatacGacaCTG..AtAcataGaCtaCATcaaCct	87
Consensus	<i>aag tgcta t t tttgg atgccaatggt cagc gg t gc ca gc</i>	
Conserved Region B		

Seq_ID_17	ATGTGGCAATGTACAAGGCTTTGTGGGAAGAAG...GTACAATGTTATCTGATATTCTGG	818
Seq_ID_7	ATGTGGCtATGTACAAGGCTcTaTGGGAAGAAG...GTgtAtacTgTCTGATgTCTtG	369
Seq_ID_11	ATGTGGCtgTGTACAAGGCTcTcTGGGAtGggG...ccggtAccaTtTCTGATATTCTtG	592
Seq_ID_14	AcaTaGcCaTaTaTaAAGGtaTgcgGttctGAtGgcgtTtgttctgatgtTGAAATTtTaG	352
Seq_ID_15	AcaTaGcCaTaTaTaAAGGtaTgcgGttctGAtGgcgtTtgttctgatgtTGAAATTtTaG	353
Seq_ID_4	AcaTaGcCaTaTaTaAAGGtaTgcgGttctGAtGgcgtTtgttctgatgtTGAAATTtTac	352
Seq_ID_3	AcaTGGCcATaTaTaAAGGtaTgcaGttttGcta...cTgtAgtgaAaCTGATgcTtTaG	352
Seq_ID_10	gaTGGCtgcaTaTaAAGGtaTgtTGGGctGgAG...GatggtTtagcagcGAcATaCTaG	892
Seq_ID_5	gaaTaGCcgctTACAAGatTTgcTGGaAAaAtG...GctggtTtaatTCTGATATatTGG	781
Seq_ID_8	gaaTaGCcgctTACAAGatTTgcTGGaAAaAtG...GctggtTtaatTCTGATATatTGG	781
Seq_ID_16	gaaTaGCAGctTatAAGatcTgtTGGaAAaAG...GgtggtTtgatTCTGATATTtTaG	804
Seq_ID_13	.....	0
Seq_ID_12	AcagaGtttgcTggcctcCaaTtatGGgcagtG...GgtgctTtgatTCaGATATctTGG	435
Seq_ID_9	gTtgacCctgGtttggtttaTgacataggGgcGcagGattAcTtcgAatTcctATgCaca	104
Seq_ID_6	ActatGCAGctTgaActaCacaGaGaaAgaAAtgaaacttttcacgAaCgagTcaaaTcc	147
Consensus	<i>a atagc ta aaggtatg gg ga g g tggt t at ctgatatttt g</i>	
Conserved Region B		



Figure 16AF

Seq_ID_17	CTGCAATTGATCAGGCAATTGAGGATGGAGT..GGATATAATATCCTTATCATTAGGCAT	876
Seq_ID_7	CTGCAATTGATCAaGCAATTacaGATGGtGT..GGATgTctTATCCTTgTCgTTAGGCAT	427
Seq_ID_11	CTGCAtTgGATCAGGCAATTGcGGATGGttg..tGATATctTATCCTTgTCATtTGGCgc	650
Seq_ID_14	CTGCgATgGATgtaGctATTGAtGATGGcGT..aGATATtcTATCaaTATCccTtGGtgg	410
Seq_ID_15	CTGCgATgGATgtaGctATTGAtGATGGcGT..aGATATtcTATCaaTATCccTtGGtgg	411
Seq_ID_4	CTGCgATgGATgtaGctATTGAtGATGGcGT..aGATATtcTATCaaTATCccTtGGtgg	410
Seq_ID_3	CTGCCAtgGATgcaGctATaGAtGATGGtGT..aGATATcAttTCCgcATCtcTAGGCgg	410
Seq_ID_10	CaGggATgGATCAGGCcgTcataGATGGtGT..aaATgTAcTcTCacTgTCccTtGGtgg	950
Seq_ID_5	CTGCCAtgGATCAaGctgTTGAtGATGGtGT..GcATgTgATcTCacTtTctgTtGGggc	839
Seq_ID_8	CTGCCAtgGATCAaGctgTTGAtGATGGtGT..GcATgTgATcTCacTtTctgTtGGggc	839
Seq_ID_16	CTGCAATgGATCAaGctgTTGctGATGGAGT..tcAcgTgAttTctcTtTCcgTtGGCgc	862
Seq_ID_13	.....	0
Seq_ID_12	tTGcttTTGAtttGGtAATTGAtGATGGcGT..GGAcgTgcTtTCagTcTCacTtGGagg	493
Seq_ID_9	CaaCAAcTcAgCccttcAcaGctaAcaGttTttGGAAggttctcCaacAgaAcTtGcCAT	164
Seq_ID_6	tTGctcggGtTttactggaTctccActtgaTcttaActatccATCacTtTctgTtatgtT	207
Consensus	ctgc atggatc agc attgatgatgg gt gat t t tca t tc ttgg g	
Seq_ID_17	AGATGATC...TTGCTTTATATG.....AGGATCCGGTAGCTATTGCCACATTTGCA	925
Seq_ID_7	AGAGCgca...TTcCacTAcAcG.....AaGATCctGTgGCaATTGCCgCATTTGct	476
Seq_ID_11	AGtTtTccatTccCTcTATATa.....taGATCctaTctCTATTGcttCATTTtCt	702
Seq_ID_14	AacTagTaa...TcCgTTccATa.....AtGAcAaGaTtGCTcTTGgggCgTaTagt	459
Seq_ID_15	AacTagTaa...TcCgTTccATa.....AtGAcAaGaTtGCTcTTGgggCgTaTagt	460
Seq_ID_4	AacTagTaa...TcCgTTccATa.....AtGAcAaGaTtGCTcTTGgggCgTaTagt	459
Seq_ID_3	AttTacTaacgcTcCaTTacATG.....AtGAcCctATtTcTcTTGgCgCgTacagt	462
Seq_ID_10	cacaatTtc...TGaTTatTAcA.....gGGATataGTAGCaATTGgaggATTTtCt	999
Seq_ID_5	taAcGgTtatgcTcCacatTATctgt....AtGATtCtaTtGCaATTGgagCtTTTGgt	894
Seq_ID_8	taAcGgTtatgcTcCacatTATctgt....AtGATtCtaTtGCaATTGgagCtTTTGgt	894
Seq_ID_16	tGAcGgTtatgcacCggaATATGatg....cGGATtCtaTtGCTATTGgagCtTTTGgt	917
Seq_ID_13	.....	0
Seq_ID_12	AGATacTg.....gagcATATGtca....AtGActCtGTAGCTATTGgttCATTTcat	542
Seq_ID_9	cacTcgctt.gcTaaTccAgggGact....tGaActaccccGCCATTtCtgCagTTttt	218
Seq_ID_6	caggccTgattcctCTgTtcATGttgttaagAGGAcattaacaCatgTcgCggtTTctaA	267
Consensus	aa t t a tcc t at a ga ctat gctattgg gc ttt t	
Seq_ID_17	GCAATGGAGAAAGATATATTTGTTTCCACTTCAGCTGGAAATGAAGGGCCTGACGATCAG	985
Seq_ID_7	GCAATGGAGAAAGgTATATTTGTTTCCAcTcTcGCaGGAAATGAAGGGCCTtAttATgAG	536
Seq_ID_11	GCAATGGAGAAAGgcATATTTGTTTCCgtTTCAGCTGGAAATGAAGGGCCTtTCGATCAa	762
Seq_ID_14	GCAAcAaGAAAgAGgTATtcTTGTTagtTgTTCTGCAGGcAATagtGGtCCattCcAaCgc	519
Seq_ID_15	GCAAcAaGAAAgAGgTATtcTTGTTagtTgTTCTGCAGGcAATagtGGtCCattCcAaCgc	520
Seq_ID_4	GCAAcAaGAAAgAGgTATtcTTGTTagtTgTTCTGCAGGcAATagtGGtCCattCcAaCgc	519
Seq_ID_3	GCAAcAaGAAAAAGgTATtcTnGcTagtgCcTcTcGCaGGcAATagcGa...gtttGATaAc	519
Seq_ID_10	GCAgcttctcAAGgaATcTTcGTcTCgtgcTCgGCTGGgAATGgcGGGCCaGgCtcTgga	1059
Seq_ID_5	GCAAtcGAacAtGgcgTccTcGTcTCatgTTCAGCTGGAAATtctGGtCCcGgaGcTtAt	954
Seq_ID_8	GCAAtcGAacAtGgcgTccTcGTcTCatgTTCAGCTGGAAATtctGGtCCcGgaGcTtAt	954
Seq_ID_16	GCTtcaGAacAtGgcgTtgTTGTcTctgcTcTcGCTGGAAActccGGtCCcGgtGcTtcc	977
Seq_ID_13	.....	0
Seq_ID_12	GttgTtaAGcAcGgcATtgTTGTcgttACcTcTcGCTGGtAAactcgtcctggtcCcggtAc	602
Seq_ID_9	cCtgaGA.cgcaAaAgTtTcaacgCtgacgCttCacagAACagtcacCaatgtGggttc	277
Seq_ID_6	GCctgaGgtgtAcAaAgtaaaGaTaCtgaaTcTgaattctgaaAAGGttagtttaAgTAt	327
Consensus	gca c ga aagg att ttgtt ct tctgc gg aat gg cc t at a	



Figure 16AG

Seq_ID_17	GCTTTGCACAACGGAACACCTTGGGTCTAACTGTTGCTGCTGGCACAGTTGATCGCGAA	1045
Seq_ID_7	aCTTTGCACAAtGGAACACCTTGGGTgtTAACTGTTGCaGCTGGCACAGTTGAcCGCGAA	596
Seq_ID_11	tCTTTGagCAAtGaggCACCTTGGTtTCTctCTGTGCTGCTaGCACAGTTGATCGgGAc	822
Seq_ID_14	aCTgTagACAAtGacgCcCCTTGGaTTCTcACaGTTGgcGCTaGCACtcaTGATaGaaAA	579
Seq_ID_15	aCTgTagACAAtGacgCcCCTTGGaTTCTcACaGTTGgcGCTaGCACtcaTGATaGaaAA	580
Seq_ID_4	aCTgTaaACAAtGacgCcCCTTGGaTTCTcACaGTTGgcGCTaGCACtcaTGATaGaaAA	579
Seq_ID_3	cCTgTagcaAAtaatgCcCCTTGGaTTCTcACaGTTGgcGCTaGCACccaTGATaGaaAA	579
Seq_ID_10	tCccTctcCAACGctgCACCaTGGaTaactACTGTaGgTGCgGGgACcaTgGAcCGCGAA	1119
Seq_ID_5	aCggcagtgAACattgCcCCgTGGaTgCTcACTGTTGgTGCatcaACtaTaGATCGtGAg	1014
Seq_ID_8	aCggcagtgAACattgCcCCgTGGaTgCTcACTGTTGgTGCatcaACtaTaGATCGtGAg	1014
Seq_ID_16	aCggcGgtCAACGttgCgCCgTGGaTTCTcACcGTTGCTGCTtcaACgaTaGAcCGgGAg	1037
Seq_ID_13	.....	0
Seq_ID_12	aaTaccGaAaAA.attgCACCTTGGcTcaTAACTGTTGgcGCgaGaACtaTgGATtGtcAg	661
Seq_ID_9	tCcaatatCAAattAcCAtgTTaGagTCTcgCcGTTcaaaggtGCAGtcgTGAagGttgA	337
Seq_ID_6	aagcccaAtggaGctgatgtTcaatgaaTcttTaagGaaaCaaaggtAtaTGgTCa..AA	385
Consensus	act t caa g gc ccttgattctcactgttgg gct gcac ttgatcg aa	
Seq_ID_17	TTTATCGGGACACTAAGTCTGGGTAAATGGAGTTTCAGTCACTGGTTTATCTCTCTACC..	1103
Seq_ID_7	TTTATtGGAACAtTAACtCTtGGaAATGGAGTTTCAGTCCcCTGGTTTATCgCTaTACC..	654
Seq_ID_11	gTTATCaGGAtAtTAACtCTtGGTAATGGAGTTTCAGTCACTGGTTTATCTCTCTACC..	880
Seq_ID_14	cTaAagGccACtgTtAagCTtGGaAATaaAGaagaAtTtgaaGGagaATCTgctTatCat	639
Seq_ID_15	cTaAagGccACtgTtAagCTtGGaAATaaAGaagaAtTtgaaGGagaATCTgctTatCat	640
Seq_ID_4	cTaAagGccACtgTtAagCTtGGaAATaaAGaagaAtTtgaaGGagaATCTgctTatCat	639
Seq_ID_3	cTaAaaGccACcgTtAagCTtGGaAATaaAGaggaAtTtgaaGGagaATCTgctgAtCag	639
Seq_ID_10	TTcccaGcatataTtAGcCTtGGaAATGGAAAAaaAtTCAGTGGagTATCaCTtTACagt	1179
Seq_ID_5	TTcccgGcagatgTtAtTtTaGGagATaatagaatAtTtggTGGTgTtTCatTgTACTcc	1074
Seq_ID_8	TTcccgGcagatgTtAtTtTaGGagATaatagaatAtTtggTGGTgTtTCatTgTACTcc	1074
Seq_ID_16	TTTccgGctgatgTtAtTtTaGGagATGGcagaatAtTCggTGGcgTATCcCTgTAttcc	1097
Seq_ID_13	.....	0
Seq_ID_12	TTTccCaGctataTcAtTtTaGGAACaaAaagcagtaCAaTt.TgaAaCaCTgccCaaa	720
Seq_ID_9	gccATCaaGAttgaAttTCaccagcAaacAccagaAactAtccttacaAggTgatTttCga	397
Seq_ID_6	TTTgagaGccatCatAtatTcaacAgcaGcaggaaAaTagCTGagcaAatggcgTttggT	445
Consensus	tt a gc a tgta tct ggaaata a a aatt g tgg g atc t ta c	
Seq_ID_17	.CCGGGAATTCCAGTTCAAGCGAAAGCTCCATCGTTTTTCTCAAGAC...ATGCCTAGA	1158
Seq_ID_7	.CtGGGAATTCT AGTTCAAGCGAAAGCTCCcTtGTcTaTgTCgA.....ATGCCaAGA	706
Seq_ID_11	.CtGGGAATTCTa...CAAGCGAtAtTCTgtTatTcTTgTCAAGAA...tTGCTTAGA	932
Seq_ID_14	cCaaaGacTTCaAacTCAAcattcttCaCtcTatTTgaTgTtgAaAa...gATagtagac	696
Seq_ID_15	cCaaaGacTTCaAacTCAAcattcttCaCtcTatTTgaTgTtgAaAa...gATagtagac	697
Seq_ID_4	cCaaaGacTTCaAGcTCAAcattcttCaCtcTatTTgaTgTtgAaAa...gATGtagac	697
Seq_ID_3	cCaaaGacTTCaAacTCAAcattcttCaCtcTatTTgaTgctggaAa...gAatgCaAGt	696
Seq_ID_10	ggaaaagcaTtaccTagttctGtgAtgcCacTgGTgTaTgctggaA...ATGCCagcc	1234
Seq_ID_5	ggCaatccTTtgAccgatgcCaAattgCggTgGTTTaTtcCggcgac..tgTGgtagcA	1132
Seq_ID_8	ggCaatccTTtgAccgatgcCaAattgCggTgGTTTaTtcCggcgac..tgTGgtagcA	1132
Seq_ID_16	ggCGatccgctCgGggattcaaAgctacCtcTtGTTTactcCggtagc..tgcGggagtc	1155
Seq_ID_13	.....	0
Seq_ID_12	tgCatGttcTtCccTattAtaaAtgttgCttcaGcaaaagctcccatgcttcaaCTgac	780
Seq_ID_9	gaCaaaAtaTCgtcaaaaAGCacgtGaatttggTaTcccTgctttGgaaa.gATGggacac	456
Seq_ID_6	tCgatatcTTgggagagtgaAaAgcaCaatgTtaggagcCcCtttgCtggtATGtgggtt	505
Consensus	c aagacttc a aac a t ct t tt atgc g a atgg a	



Figure 16AH

Seq_ID_17	GGAGAAGGAAGTGGAGAAAAATGCACA..CAAATTCGAGTCTGCTATGACAC.....	1209
Seq_ID_7	tGacAAGGAAGTGCAGAAAAATGCACA..CAAATtGttGTCTGtctcGACAA.....	757
Seq_ID_11	taAGcAGGAATGcAaAAtgtTaCAGa..CAAATtGtgGTCTGcAtTGACAA.....	983
Seq_ID_14	GagcAAccAgtaGccccctttcTGCAtAc.CAggaTCaCtcaCTGacccttCt.....	747
Seq_ID_15	GagcAAccAgtaGccccctttcTGCAtAc.CAggaTCaCtcaCTGacccttCt.....	748
Seq_ID_4	GagcAAccAg.aGccccctttcTGCAtAc.CAggaTCaCtcaCTGacccttCtataagggg	755
Seq_ID_3	GatcAAGatg...ctccAttcTGtAgAt.CgtgggCGatGaCTGaTcctgCtatcaaagg	752
Seq_ID_10	aagcAtcaAA.TGGcAAtttATGCACA....AgTgGtAGTCTGaTtccAgAaaaagttg	1288
Seq_ID_5	aatactGttAtccagGAAAgcTagAtcc.tAAAAaaGtcGcagGaaAaattgttt.....	1186
Seq_ID_8	aatactGttAtccagGAAAgcTagAtcc.tAAAAaaGtcGcagGaaAaattgttt.....	1186
Seq_ID_16	aactctGttAtccagGAAtgcTGgAtcc.ttcAaagGtAGcCgGaaAaattgtat.....	1209
Seq_ID_13	.....	0
Seq_ID_12	GatGctctcttatGcaAAgctgGggCAT.tggAccCaaAGaagGtaAaGgtAacta....	835
Seq_ID_9	acAaAgTGagaaGcAcAAAttgTGatCAC.atggcTaGCAtcaattTAGttCAgcttg..	512
Seq_ID_6	cagcAAaatttcaataAcAgtaGattAtaCAAAaTaaCttaaTatgtacAttgtgtatc	565
Consensus	a aa a t g aat tg a a ca a t g g ctga c	
Seq_ID_17	.....GAACGGATCAGTAAGTGACCAATTGTACAAT.G	1241
Seq_ID_7	.....GAAtGatTCgGTtgGTGAGCAtgTGACAAT.G	789
Seq_ID_11	.....aAACGcATtgGTcgGgaAaCAAgTtgAaAgT.G	1015
Seq_ID_14	.....	747
Seq_ID_15	.....	748
Seq_ID_4	aaagatagttgtgtgcctgggttggtggtggCGttcgtaaggTGAaAAggacAagtT.G	814
Seq_ID_3	taagatagttgtgtgtcaaaaagacccaAgtaGtctcaccAGTagtCAAggacgaAAT.G	811
Seq_ID_10	atgggaaaattgtatgtgtgacagagGgAtGaATGcaaggGcacagAAggGTttggTtG	1348
Seq_ID_5	.....tatgcgatagggGaggcaAcgctaggGTtgaaAAagGgAgTgcgG	1231
Seq_ID_8	.....tatgcgatagggGaggcaAcgctaggGTtgaaAAagGgAgTgcgG	1231
Seq_ID_16	.....tatgtgatcgagGcggaCAAtgctagAGTagagAAagGaAgTgcaG	1254
Seq_ID_13	.....gAcagAaTtgaaAAagGacaAgctG	25
Seq_ID_12	.....ttttagtttgtctaagagGagataATacGaggGTtgaCAAggGacagcaaG	886
Seq_ID_9	.....ccatttagtaactagcattttGttTgctgAgGatAaTAAAAaactgTtG	562
Seq_ID_6	tgttgtatcgtcgtacctctagcctccGagtatgtTactatgtTGtattAcgtacCtcTaG	625
Consensus	ga t c ggt a aa gg t g	
Seq_ID_17	TAAAAACACAAAGTTGCTGGTGGCATCTTCATAACAAATTAC.....ACTGACTTGG	1295
Seq_ID_7	TAAgAAAAttCAAAAGTTGCTGGGgGctgTCTTTATAACTAATaca..... ACTGACTTGG	843
Seq_ID_11	TgAgAcAttCAAAtGcTGCTGGTgctgTCTTCATAACAAATgAcTttgtcACTGACTTGG	1075
Seq_ID_14	.....	747
Seq_ID_15	.....	748
Seq_ID_4	TAAAggAtgCtggAGgTGtTGGcatgATtcTtATcAatAATccagaagatggTGttacta	874
Seq_ID_3	TAAAggACgCtggAGgcGtTGGcatgATtcTCATcAatAATccggaagatggTGtCacta	871
Seq_ID_10	TcAAAgAtgCtggGtGgaataGGgatgATtTTggcAAacAcagACtcttacggaGAtgaGt	1408
Seq_ID_5	TgAAgCaggCaggcGgaGtaGGgatgATacTtgctAatttggctgactccggcGAagaac	1291
Seq_ID_8	TgAAgCaggCaggcGgaGtaGGgatgATacTtgctAatttggctgactccggcGAagaac	1291
Seq_ID_16	TgAAAttagCgggcGgTGCaGGTatggTCcTggcgAatttagctgactccggcGAagaac	1314
Seq_ID_13	TAAAgAACgCtggAGgcGtTGGcatgATtcTCATcAatcggcttcaggacggTtcaacta	85
Seq_ID_12	ctgctttggCaggtGcaGtTGGaaccATtcTagccAacgATTatgcatctggcGATgaaa	946
Seq_ID_9	cggcAAAgtCcttgtgTttTcagcagtTgTTttcAgTAgAaaAtagtttcttTtgtTcat	622
Seq_ID_6	c.....CtCtgAgtaTGtactatGttgtaTCATcgtAccTctagcctccgagtAtgTac	679
Consensus	t aa a gc gg gg gttgg a gat t aa cgg ga	



Figure 16AI

Seq_ID_17	AATTCTACCTCCAAAGC..GAATTCCC	1353
Seq_ID_7	AATTCTACCTCCAAAGC..GAATTCCCG.....	869
Seq_ID_11	gcgaaTACCTCaAAAcA..GAATTCCCatCTGTGTTcTGAAtTTcCAaAATGGTGATcA	1133
Seq_ID_14	.....	747
Seq_ID_15	.....	748
Seq_ID_4	AATcagctgaagctcat..GtccTtCCaGCaTGaTgTttcagaTgcAGATGGaAgAA	932
Seq_ID_3	AATcagctactgctcat..GttcTtCCcGCatTagaTgTttcacaTGAAGaAGGaGAgAA	929
Seq_ID_10	tggTtgctgatgcnat..ctcaTaCCaCaGgtgcagTtgggtcaaactGcTGGTGAntt	1466
Seq_ID_5	tcgTCgcCgattcAcat..cttcTCCCGGCgacGaTggTcgggtcaaaAAGcTGGaGACAA	1349
Seq_ID_8	tcgTCgcCgattcAcat..cttcTCCCGGCgacGaTggTcgggtcaaaAAGcTGGaGACAA	1349
Seq_ID_16	tcgTCgcCgattcAcat..ctccTaCCGGCgacaaTggTcgggtcaaaAAGccGGTGAcgA	1372
Seq_ID_13	AATcagcCgatgctcat..GtccTtCCGGCCcTGaTgTttcaTTTtttGATGGattTcA	143
Seq_ID_12	ttTTTgctgatttctCtCgTcTTaCCtGCTacGcaaaTtAgTTacactGATGGactTgA	1006
Seq_ID_9	tAcTagctacttAtAtt..GccaaattattTGTGgcagctA.CTaaaAtGATGaattTgg	679
Seq_ID_6	tAcgtTgtaTtacgtaCctctAgcCtCtGagtatgTacTatgtTgTatcaAcGtaccTct	739
Consensus	t gc t c cat gt t cc gc g gt a gatgga a a	
Seq_ID_17	AGTTTTGGAGTACATCAAGAATAGCCATTACCAAAAGCAAGGCTTGAATTTCAAGTGAC	1413
Seq_ID_7	.....	869
Seq_ID_11	AGTTTTGaAaTatgTtAAcAgcActtctTCACCAAAAGCAAAaGaTTGgAcTTCAAGgGAC	1193
Seq_ID_14	.....	747
Seq_ID_15	.....	748
Seq_ID_4	AaTTcTtGccTACATaAActcaAcgtcgaatCctgttGCTgcaaTcaccTTcCATGgaAC	992
Seq_ID_3	AaTTaaGGccTATaTaaAttcaActtcaaatCctAttGCTgcaaTTacATTcCAGGgaAC	989
Seq_ID_10	gaTcnaaagGTACATtgcttTgaCagTaatCCAAttaCcAcaATTGcATTtgAGgtAC	1526
Seq_ID_5	AaTaagacActTACgTaAcGtcTgatCcTTCACCCAcgGCgAcGaTcGtgTTcagAGgaAC	1409
Seq_ID_8	AaTaagacActTACgTaAcGtcTgatCcTTCACCCAcgGCgAcGaTcGtgTTcagAGgaAC	1409
Seq_ID_16	AaTaagGGATACgTCAaatcTgattcaTACCAAAAGCgAcGaTTGttTTcaAAGgaAC	1432
Seq_ID_13	AaTTactGAGTATATgAAatcaAcaaAgaatCctgttGCTAGaatTacATTcCAAGgaAC	203
Seq_ID_12	Act.....CtTtAgttcaAcaagTatACctAcAGCttccaTTacAcaTCCaAcGAC	1057
Seq_ID_9	caaTagGagccAaAaaAaaAaaAaaagggCggCcgcg.....	716
Seq_ID_6	AGccTccGAGTatgTagtatgTatatcaTtg..tAtctttAGGCcTcAaaaaaAaaaaAa	797
Consensus	aat ta t a tc a cc a gc a att tt agg ac	
Seq_ID_17	ACATCTGGTGCTAAA...CCAGCACCAAAAGTTGCTAGCTATAGCTCAAGGGGACCATC	1470
Seq_ID_7	.....	869
Seq_ID_11	ACtaaTTGGTGtcgAA...CgAGCACCAgctGTcGCgcatTtTAGtTCgAGGGGgCCATC	1250
Seq_ID_14	.....	747
Seq_ID_15	.....	748
Seq_ID_4	tgtactTGGaGaTAAA...aatGCTCctAtAGTTGCTtcaTtTtctTctcGaGGACCAag	1049
Seq_ID_3	AgtaaTaGGaGaTAAA...aatGCTCctAttGTTGCTtcaTtTtctgCtcGaGGACCAag	1046
Seq_ID_10	caAgtTgGGcGtccAA...CCAtCACCGgtcGTcGCagctTtTAGtTCcAGaGGgCCAAa	1583
Seq_ID_5	AgtgaTcGGaaaatcAccggCAGCACCAcgtGTaGCggcgTtctcgagccGaGGACCTaa	1469
Seq_ID_8	AgtgaTcGGaaaatcAccggCAGCACCAcgtGTaGCggcgTtctcgagccGaGGACCTaa	1469
Seq_ID_16	tgtaaTcGGaaaatcAccgtCtGCTCCAcgtaTTGCTgcgTtctcaggccGaGGACCCaa	1492
Seq_ID_13	gataaTaGGcGaTAAA...aatGCTCCAggtgCTTGCTgGtTtTtcaTctcGcGGACCAag	260
Seq_ID_12	t.taaTTGGgaacAAA..gCCAGCtCCAgtaTaGCagcCTtTtcaTCAataGGACCTaa	1114
Seq_ID_9	.....	716
Seq_ID_6	AaAaaaaaAaaaaAaA.....	813
Consensus	t at gg a aa gc cc t gc tt g ggacc a	



Figure 16AJ

Seq_ID_17	AGAAAGCTGCCCTTTTATCCTCAAACCTGACCTGATGGCTCCTGGAGCCTTAATATTAGC	1530
Seq_ID_7	.....	869
Seq_ID_11	AatgAcCTGCCGgTTTATCCTCAAACCTGACCTGATGGCTCCaGGtcaCTTAATAcTAGC	1310
Seq_ID_14	.....A.....	748
Seq_ID_15	.....	748
Seq_ID_4	cGAAGcaaGtCgTggcATCtTgAAACCTGAtaTtATtGgTCCTGGtGttaatgTccTtGC	1109
Seq_ID_3	ccgAgcaaaaCCCTggcATCtTaAAACCTGAtaTtATtGgTCCTGGtGttaatATccTtGC	1106
Seq_ID_10	cccAAtCacaCCggagATCCTtAAACCaGAttTGATaGCaCCaGGtGtCaatATtctTtGC	1643
Seq_ID_5	tcAtttgacgCCggagATtCTtAAACCGGATgTtATtGCaCCTGGAGttaacATtTTgGC	1529
Seq_ID_8	tcAtttgacgCCggagATtCTtAAACCGGATgTtATtGCaCCTGGAGttaacATtTTgGC	1529
Seq_ID_16	ttAtgtaacaCCggagATCCTtAAACCGGATgTtActGCaCCaGGAGtCaacATATTAGC	1552
Seq_ID_13	cacAgctaGtCCTggaATCtTgAAACCTGAtaTtATtGgTCCTGGtGttaatgTccTAGC	320
Seq_ID_12	cactgttacacTggagATCCTtAAggtT..ttacgcaGgTtCatGAtttTTgacacgaC	1172
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus	a cc g atc t aaacc gat t at g cc gg gt t t gc	
Seq_ID_17	CTCATGGCCTCAAAAATCACCGGCAACTCAAATTCGCTCAGGAGAGCTTTTCAGTAACTT	1590
Seq_ID_7	.....	869
Seq_ID_11	tTCATGGtCTCcActATCATCtGtgAgTCCAtaT.....actGAaCTTcaCaATatCTT	1364
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	tgCtTGGCCTacctcAgTAgataac...aAcAaa.....aAcacaaaatccAcaTT	1157
Seq_ID_3	tgCtTGGCCTaccAccgtgaatatccCcaAcAaa.....aAcacaaatttcTggaTT	1157
Seq_ID_10	tggcTGGaCaggAAAAgttggacCAACaggttTgCcagaAGacaccaggaatgtgggtTT	1703
Seq_ID_5	CggtTGGaCaggAtctgttggacCgACcgAttTggatattGacacGagaagagtagAaTT	1589
Seq_ID_8	CggtTGGaCaggAtctgttggacCgACcgAttTggatattGacacGagaagagtagAaTT	1589
Seq_ID_16	CggtTGGaCagggtccatAggacCAACagAttTggaaattGataccagacgagtggaATT	1612
Seq_ID_13	agCtTGGCCTacttctgtcgaa..AAC.....aaaaCcaacaccaaTcaAc...aTT	368
Seq_ID_12	aTCtTtCtTgAAAgATC AggaaacgacatctTTtctTgAaagatcaggaaCtt.gAagT	1231
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus	tgg c a a tt	
Seq_ID_17	CAACATCATATCAGGTACGTCAATGTTCATGCCCTCATGCAGCTGGTGTAGCAGCACTTCT	1650
Seq_ID_7	.....	869
Seq_ID_11	tAACATtATATCTGGcACaTCcATGTTCATGtCCaCacGCTGcCGGTGTAGCtGCACCTTgT	1424
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	CAATATCATATCAGGcACaTCAATGTCTGCCCTCA.....	1193
Seq_ID_3	CAATATCATATCAGGcACaTCAATGTCTGCCCTCA.....	1193
Seq_ID_10	CAACATCATtTCTGGaActTCcATGTTCATGtCncCATGtAagTGGgcTtGCAGCAnTaCT	1763
Seq_ID_5	CAATATtATtTCTGGaActTCcATGTCTGCCCTCacGttGggGGatTgGCTGCTtTaCT	1649
Seq_ID_8	CAATATtATtTCTGGaActTCcATGTCTGCCCTCacGttGggGGatTgGCTGCTtTaCT	1649
Seq_ID_16	CAACATtATATCTGGTACaTCcATGTCTTGtCCTCATGttagcGGgtTAGCtGCTtTaCT	1672
Seq_ID_13	CAACATAAttTCcGGTACcTCTATGTTCATGtCCTCaccttagcGGaGtTGCAGCAAtTgtT	428
Seq_ID_12	CtgaAgaAgcTatGcTtgaagAATaTgCGGagCaagTtgAagcacaATatagttttTgtT	1291
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus	caa at at tc gg ac tc atgtc tg cc ca t t t	



Figure 16AK

Seq_ID_17	GAAAGGAGCACACCCCAAATGGAGTCCTGCTGCCATCCGGTCGGCCATGATGACCACAGC	1710
Seq_ID_7	.....	869
Seq_ID_11	tAAAGGgaCcCACCCtgAATGGAGcCCaGCTGCCATtCGtTCGGCCATGATGACTACAGC	1484
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....	1193
Seq_ID_3	.....	1193
Seq_ID_10	GnAAGccGCcCAtCCagAATGGAGTtnaGggGtnATaaGGTCaGCacTGATGACTACAGg	1823
Seq_ID_5	tAgAaGgGCcCACCCaAagTGGAccCCaGCaGCggTaaaGTCaGCacTtATGACaACAGC	1709
Seq_ID_8	tAgAaGgGCcCACCCaAagTGGAccCCaGCaGCggTaaaGTCaGCacTtATGACaACAGC	1709
Seq_ID_16	tAgAaaAGCttACCctAAATGGAccaCaGCaGCCATCaaaTctGCCcTcATGACaACAGC	1732
Seq_ID_13	aAAaGcGCgCACCCtActTGGtccCTGCaGcTATtaaaTCaGCaATcATGACaACcGC	488
Seq_ID_12	ctgttagtagCAGtttAAAagattttTgtcatTtgtAcatcGTgtatagTtcTaAtgtCtGt	1351
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus	a t t t a c g	
Seq_ID_17	CGACACGATGGATAACATGCAAATGCCCATCCGAGACATAGGTCGC...AACATAATGC	1767
Seq_ID_7	.....	869
Seq_ID_11	gGAtgttcTaGAcAACaCaAAAgTCCgATCCaAGACATcGGTCGtccagAgAATgcTGC	1544
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....	1193
Seq_ID_3	.....	1193
Seq_ID_10	ttACAgcAcacAcAagAatggnnaaatgATagagGAt...GTtGCcacAggAATgtcat	1879
Seq_ID_5	ttACAactTGGACAAttctggTAAagtatTtacAGAtcTtGccactggccAagA.....	1763
Seq_ID_8	ttACAactTGGACAAttctggTAAagtatTtacAGAtcTtGccactggccAagA.....	1763
Seq_ID_16	ttACAacgTtGATAACTccggcAaaaCCtTtacAGAtcTcGcgacaggccAggA.....	1786
Seq_ID_13	tGAtACagTcaAcctCgccaAcAatCCCATattAGAtgaAatgCtCcgtcctg.....	541
Seq_ID_12	ttttA...GGAgttgATaaAAATagtgcatGcaAttTgctTaGgtatAtttATtgaca	1407
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus	a a	
Seq_ID_17	TGCCAGTCCCCTAGCCATGGGAGCTGGCCGTATCAATCCAAATAAGGCACTAGACCCTGG	1827
Seq_ID_7	.....	869
Seq_ID_11	TGCTAcTCCtCTtGCtATGGGAGCTGGCCaTATCAATCCtAAcAAGGCAaTAGAtCCTGG	1604
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....	1193
Seq_ID_3	.....	1193
Seq_ID_10	a..tAcaCCagTtGatcatGGcGCTGGaCaTgTgAATCCAgcagcaGCTaTgaAtCCTGG	1937
Seq_ID_5	atCtAcTCCCTtTcGttcatGGAtCaGGtCaTgTagAcCCgAAccgaGCAtTgGAtCCgGG	1823
Seq_ID_8	atCtAcTCCCTtTcGttcatGGAtCaGGtCaTgTagAcCCgAAccgaGCAtTgGAtCCgGG	1823
Seq_ID_16	atCgAGTCCgtTtGttcacGGgtCgGGtCaTgTggATCCgAAcAgaGCACTAGAtCCaGG	1846
Seq_ID_13	..CaAacatCtTtGCCATtGGtGCaGgaCaTgTCAATCCAtcacgaGCAaatGAtCCaGG	599
Seq_ID_12	TtgtgaTCCttcgGtttTttataaTGaaCaatgaAATtttgtggAaaaAaaAaaaaaa	1467
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus	g g c a a	



Figure 16AL

Seq_ID_17	ACTTATCTATGACATTACATCACAGGACTATATCAATCTCCTCTGTGCTCTAGATTTTAC	1887
Seq_ID_7	.....	869
Seq_ID_11	ACTcATCTATGAtAcaACaCACAaGAtTAcAtTAACTCTtCTtTGTGCTCTAaATcTcAC	1664
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....	1193
Seq_ID_3	.....	1193
Seq_ID_10	gtTagngTATGAtcTcACAgttgAtGACTATATaAActTCCTtTGcGCcCTgGATTacAg	1997
Seq_ID_5	ttTgATtTAcGACATcgaAaCtagcGAtTAcgTaAAATtTCCTaTGctCcaTgGcTTaTga	1883
Seq_ID_8	ttTgATtTAcGACATcgaAaCtagcGAtTAcgTaAAATtTCCTaTGctCcaTtGgcTaTga	1883
Seq_ID_16	tCTTgTCTAcGATATTgacaCgaAGGAtTAcgTggATtTttTaTGcGCcAtTgGTTaTga	1906
Seq_ID_13	ACTagTtTAcGATAcacaATtcaAGGAtTAcATatcTtattTaTGTGgTtTgdAaTAcAC	659
Seq_ID_12	AaaaAaaaAaaaAaA.....	1481
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus	a a	
Seq_ID_17	ATCTCAACAGATAAAAGCCATTACAAGGTCCTCTGCTTATTCTGTTCCTGTTCCAACTCATCATT	1947
Seq_ID_7	.....	869
Seq_ID_11	ATCcAgCAGATAAAAaCCATcAcTAgGTCCT...CTTATaCtTGccCCAACcCATCATT	1721
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....	1193
Seq_ID_3	.....	1193
Seq_ID_10	tCcaagtatGATcAAgGtCATcgCAaAGcgagaTatTTccTgCgnaaaCAAtaaggataT	2057
Seq_ID_5	cggcgAcgAtgTcgccGtgtTcgCgAGagatTCTtCTcgagtgaATgCAGtgaAcgAag	1943
Seq_ID_8	cggcgAcgAtgTcgccGtgtTcgCgAGagatTCTtCTcgagtgaATgCAGtgaAcgAag	1943
Seq_ID_16	tcCcaAAagaATttcAcCgtTcgtgAaagataCTtCTTcagtgaaTTgCAGCgaAaagaa	1966
Seq_ID_13	AgaTCgACAGATgggAagCcTTctAcaacgCa.....gaaCaaGTTgCtcgaaAgtgaa	713
Seq_ID_12	.....	1481
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus		
Seq_ID_17	GGATTTAAACTATCCATCATTCATAGGCTATTTCAATTATAACAGCAGCGAGTCAGACCC	2007
Seq_ID_7	.....	869
Seq_ID_11	GGAccTAAACTATCCATCtTTCATtGcCTATTTCAAcgtgAAtAGCAGCGAGTtgGAtCC	1781
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....	1193
Seq_ID_3	.....	1193
Seq_ID_10	aGAgTTg..CTgaCCtTaATTacccatCTtTTgCcATTccttttgGaAaCGgGcCtGgggC	2115
Seq_ID_5	tttggctActccgggAgaccTgAattaCccgTcgttcTccgttggttttaccggtGAGag	2003
Seq_ID_8	tttggctActccgggAgaccTgAattaCccgTcgttcTccgttggttttaccggtGAGag	2003
Seq_ID_16	tttagTtAgtccgggggatTTgAattatccaTcgttcTcagttgtatTTGgcagtG....	2022
Seq_ID_13	aagTaTtcctgAagCacaAcTCAattaCccTTcgTTTccAtttcacttGg.agca....	768
Seq_ID_12	.....	1481
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus		



Figure 16AM

Seq_ID_17	TAAAAGGATACAAGAATTCCAGAGGACGGTGACTAATGTAGGAGAAG...GTATGTCTGT	2064
Seq_ID_7	.....	869
Seq_ID_11	TAcAAGagTACAAGAATTCaAGAGGACaGTGACTAATGTcGGAGAAG...GTgTGTcGgA	1838
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....	1193
Seq_ID_3	.....	1193
Seq_ID_10	gAAcAtGcaAatAGtAgTgCAccaacaGtgacCagATaTAcGAGgAc...tctaacaaac	2172
Seq_ID_5	cAAcgGtgTgggttaAAATaCaAGcGGgtGGTGAaTAATGTAGGAaAAaatacagatgCTGT	2063
Seq_ID_8	cAAcgGtgTgggttaAAATaCaAGcGGgtGGTGAaTAATGTAGGAaAAaatacagatgCTGT	2063
Seq_ID_16	..AtAGtgTgggtgaAAaaCaAGcGtgtGGTtAaaAATGTtGGcaggaatacaAatgCgGT	2080
Seq_ID_13	....AatcaACAAacATAcacaAGaCaGTGACaAAcGTcGGgGAGG...caATGTCatc	821
Seq_ID_12	.....	1481
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus		
Seq_ID_17	ATATACAGCCAAATTGACCTCAATGGGTGATTATAAAGCTAGTGTTCACCTGACAAGTT	2124
Seq_ID_7	.....	869
Seq_ID_11	ATATACAGCCgAgcTGACtgCAATGccTGgactTAAAGtTAGTGTGttCCTGAaAAGTT	1898
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....	1193
Seq_ID_3	.....	1193
Seq_ID_10	gTgggaAatCcAgcTacataCAAgGccTcAgTcTctctgAaatgcaggaagtgaAgaTT	2232
Seq_ID_5	gTATgaAGtgAAGgTGAatgCgccGtcgctcggtggAgGtgAaTGtATCACCGGcgAAGcT	2123
Seq_ID_8	gTATgaAGtgAAGgTGAatgCgccGtcgctcggtggAgGtgAaTGtATCACCGGcgAAGcT	2123
Seq_ID_16	gTATgagGtgAAAAaTaAatgCgccGGGTtccggtggAgGtgAagGTgaCtCCgactAAGcT	2140
Seq_ID_13	tTATcgcGtgAagaTagttTCaccacaaaATgtTtccGtTgtTGTtaagCCTtcaActctT	881
Seq_ID_12	.....	1481
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus		
Seq_ID_17	GGTTTTCAAAGAGAAGTATGAAAAGCAAAGCTACAAGCTAAGGATAGAAGGTCCATTGCT	2184
Seq_ID_7	.....	869
Seq_ID_11	GGTTTTCAAAGAcAAGTATGAAAAGCAAAGCTACAAGCTgAGGATAGAAtGTCCAc aaCT	1958
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....	1193
Seq_ID_3	.....	1193
Seq_ID_10	caggTTgAAccACAAacActtActttcAgTcGAAg...AAGGAaAagAaaaCCTacaCT	2289
Seq_ID_5	tGTaTTCagTGAGgAaaAgcAAAgtttgcTgTgAGaTtAGctTAAgaGTaaAaaGag	2183
Seq_ID_8	tGTaTTCagTGAGgAaaAgcAAAgtttgcTgTgAGaTtAGctTAAgaGTaaAaaGag	2183
Seq_ID_16	tagTTTtAgcGAGAAaaATaAgAgtttgcTgTgAGaTtAGctTtagcaGTAatggaag	2200
Seq_ID_13	aaaaTTtAcgaAGttGaATcAgAAGttgAcaTACcgagTgAcatTttccacaaCAacaaa	941
Seq_ID_12	.....	1481
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus		



Figure 16AN

Seq_ID_17	AGTTGATATTATCTTG.TTTATGGTTCTTTGAGCTGGGTGGAAACTAGCGGTAAATATGT	2243
Seq_ID_7	.....	869
Seq_ID_11	gaTgaATgaTtTCTTGgTTcATGGTTCTTTaAGCTGGGTGGAAAaggGaGGTAAATATGT	2018
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....	1193
Seq_ID_3	.....	1193
Seq_ID_10	gtgacATtcacTgcTagTTccaaGccaTcaGgcacaaacTaGctttgctCGactggaATGg	2349
Seq_ID_5	tGgTGATtTgcagaTGg.TgAaGGGgaTTgaAtCTGcaT...ttggGtcGattgaATGg	2238
Seq_ID_8	tGgTGATtTgcagaTGg.TgAaGGGgaTTgaAtCTGcaT...ttggGtcGattgaATGg	2238
Seq_ID_16	tGTTGggtTggagagag.TaAaaGgTCTTgaAtCaGcaT...ttggGtcaattgagTGg	2255
Seq_ID_13	ca.....TcAcaaacaTggaAGtTGttc...AtggatacTtgAaATGg	981
Seq_ID_12	.....	1481
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus		
Seq_ID_17	TGTAAAAAGTCCCATTGTGCGCAACTA.CCATAAGAGTGGATCCTCTGTGAGGACAGAACT	2302
Seq_ID_7	.....	869
Seq_ID_11	aGTTAggAGcCCaATTGtTGCCaCaAattcTtAagtTtGATCCTtTGacAGGAtAGtACT	2078
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....C.....	1194
Seq_ID_3	.....C.....	1194
Seq_ID_10	TcagAtggacaaCATgtTgttgctagcCCAattGctTtcAgttggacatgattatGctaa	2409
Seq_ID_5	aGTgAtggaattCAcaaTgtgAgaagcCCAattGcGgtGcggtggcGTcActAttctgaT	2298
Seq_ID_8	aGTgAtggaattCAcaaTgtgAgaagcCCAattGcGgtGcggtggcGTcActAttctgaT	2298
Seq_ID_16	aGTgAtggaattCAcAGcgtgAggagTCCAattGcGgtGcattggctactccACTctgCT	2315
Seq_ID_13	acaAgtgAtaagCATTtTgtaAgaagtCCAattGctgttATtCTacaaGAGcAtgaAACa	1041
Seq_ID_12	.....	1481
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus	C	
Seq_ID_17	GATTATGAGTCCTGTATTCTGAAAATGTGATACAGTGATGAATAATTGTGAAGTTAAATT	2362
Seq_ID_7	.....	869
Seq_ID_11	GATTActga...aTATTCcactAAacatgTctttTGAgAcatgaTaTatAcaTActTg	2134
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....	1194
Seq_ID_3	.....	1194
Seq_ID_10	ttcTATaAGTCaTtcAcTgcaAAtgTacaAgTgcaaatattcctATAaaatAaTTActag	2469
Seq_ID_5	GcagcatccatgTGagTaaTGgAtgatTGtTctttatATTgcattgcaTGgAccaAtAaa	2358
Seq_ID_8	GcagcatccatgTGagTaaTGgAtgatTGtTctttatATTgcattgcaTGgAccaAtAaa	2358
Seq_ID_16	acagAatctcagTGagcaaTGgActatgaAgcaAGAagatA.attgTGctAAtcTgcAaa	2374
Seq_ID_13	ccagAaGAtTagTG..TctTtActtTtTaATAattTGtTcAATttaTaataAAccc.cgTa	1098
Seq_ID_12	.....	1481
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus		



Figure 16AO

Seq_ID_17	CAAAAAAAAAATCTTTTCAGTTAGTTAAAACTAACTTGCTGATTAAAAAAAAAAAAAAAAAAAA	2422
Seq_ID_7	.....	869
Seq_ID_11	tgAAgtgtAgTtcTaTggtTcAcantnnAaaAAAAAAAAAaAAAAAAAAAAAAA.....	2188
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....	1194
Seq_ID_3	.....	1194
Seq_ID_10	tgtgcAgcAgctacTcCtcTaAtaTtccACcAACtaaaaaAaTAgccctgAcctAtAAtt	2529
Seq_ID_5	CtgggAtgA.TgacaaattgaAagacgAAaTgttgctagaggatcAtcgAAtttgtccAA	2417
Seq_ID_8	CtgggAtgA.TgacaaattgaAagacgAAaTgttgctagaggatcAtcgAAtttgtccAA	2417
Seq_ID_16	CtggttAtgggcCagaaacaggAacaAggctaAgtTcagaaAggAAAGgAAAtAgggAAg	2434
Seq_ID_13	ttA..AttgATtgTaTCcaaaAtgTAGAAtgAgtgcaaaaATTgctcAtgttttAttctA	1156
Seq_ID_12	.....	1481
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus		
Seq_ID_17	AAA.....	2425
Seq_ID_7	.....	869
Seq_ID_11	.....	2188
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....	1194
Seq_ID_3	.....	1194
Seq_ID_10	AAgatgcctaggaaattcttagcatctagacaaggaaaatgttggtgatttgtccagcaa	2589
Seq_ID_5	ctt.taatttcactttctttaccttttgttctctgatgttggttcagattgatgtatatat	2476
Seq_ID_8	ctt.taatttcactttctttaccttttgttctctgatgttggttcagattgatgtatatat	2476
Seq_ID_16	g....aacatctatctgttgaaataatgtaagaaattttcatcattcttttct...tgt	2487
Seq_ID_13	ctggtgatatttcccttgtggttaaaaaaaaaaaaaaaaaa.....	1193
Seq_ID_12	.....	1481
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus		



Figure 16AP

Seq_ID_17	.....A.....	2426
Seq_ID_7	.....	869
Seq_ID_11	.....	2188
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....	1194
Seq_ID_3	.....	1194
Seq_ID_10	aagacAggtgttttacttgccagattattatgtaccaagccacacaatatggataaatac	2649
Seq_ID_5	gaatgAagcatatccagttgtttccagaaaaaaaaaaaaaaaaaaaaaaaaaaaaa...	2533
Seq_ID_8	gaatgAagcatatccagttgtttcacag aaaaaaaaaaaaaaaaaaaaaaaaaaaaa...	2532
Seq_ID_16	ttatgAgtattttatcag.....ccacaaaaaaaaaaaaaaaaaaaaaaaaaaaaa...	2538
Seq_ID_13	.....	1193
Seq_ID_12	.....	1481
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus		
Seq_ID_17	.....	2426
Seq_ID_7	.....	869
Seq_ID_11	.....	2188
Seq_ID_14	.....	748
Seq_ID_15	.....	748
Seq_ID_4	.....	1194
Seq_ID_3	.....	1194
Seq_ID_10	aattggcttttcg aaaaaaaaaaaaaaaaaaaaaaaaaaaaa	2691
Seq_ID_5	.....	2533
Seq_ID_8	.....	2532
Seq_ID_16	.....	2538
Seq_ID_13	.....	1193
Seq_ID_12	.....	1481
Seq_ID_9	.....	716
Seq_ID_6	.....	813
Consensus		



Figure 16B

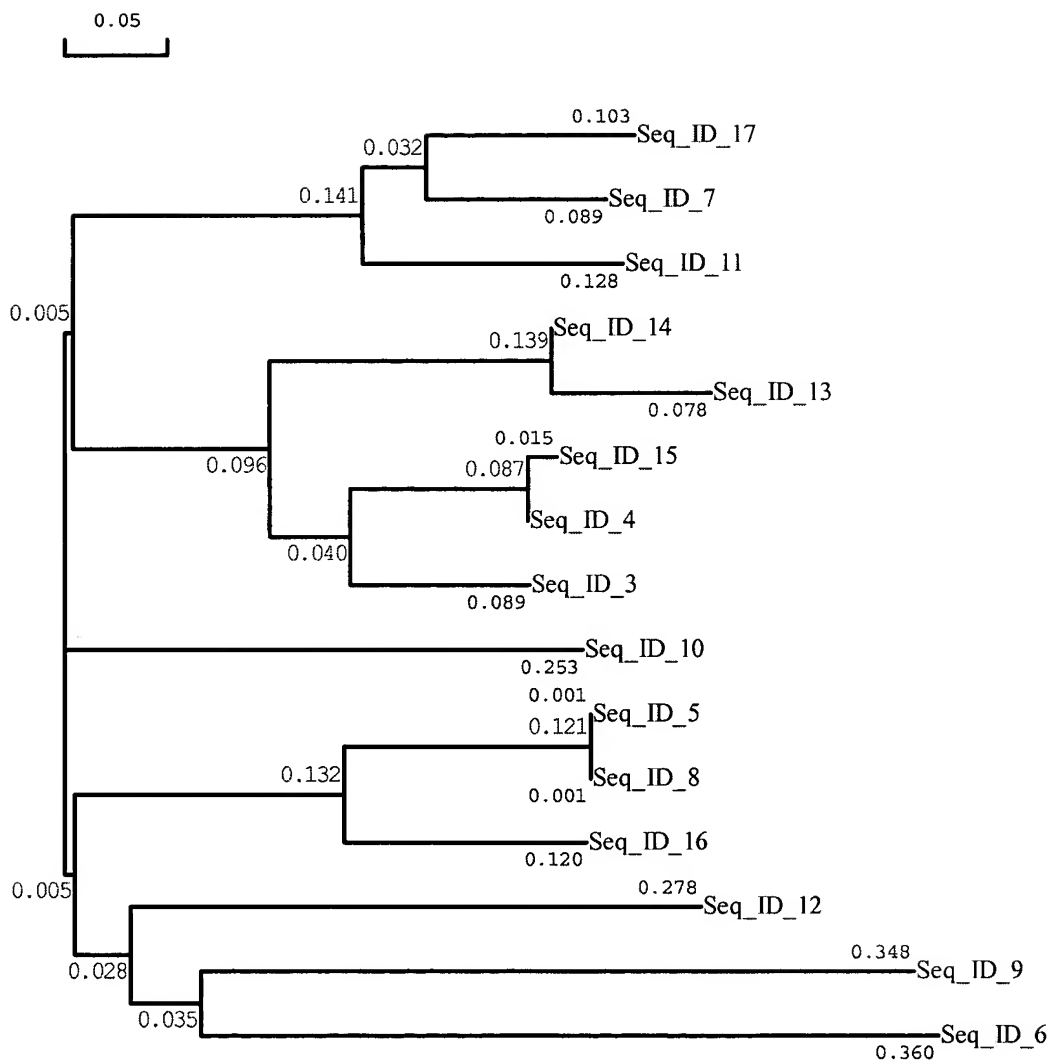




FIGURE 17

Protease Inhibitor-SCF Fusions
GENEWARE® Vector Design

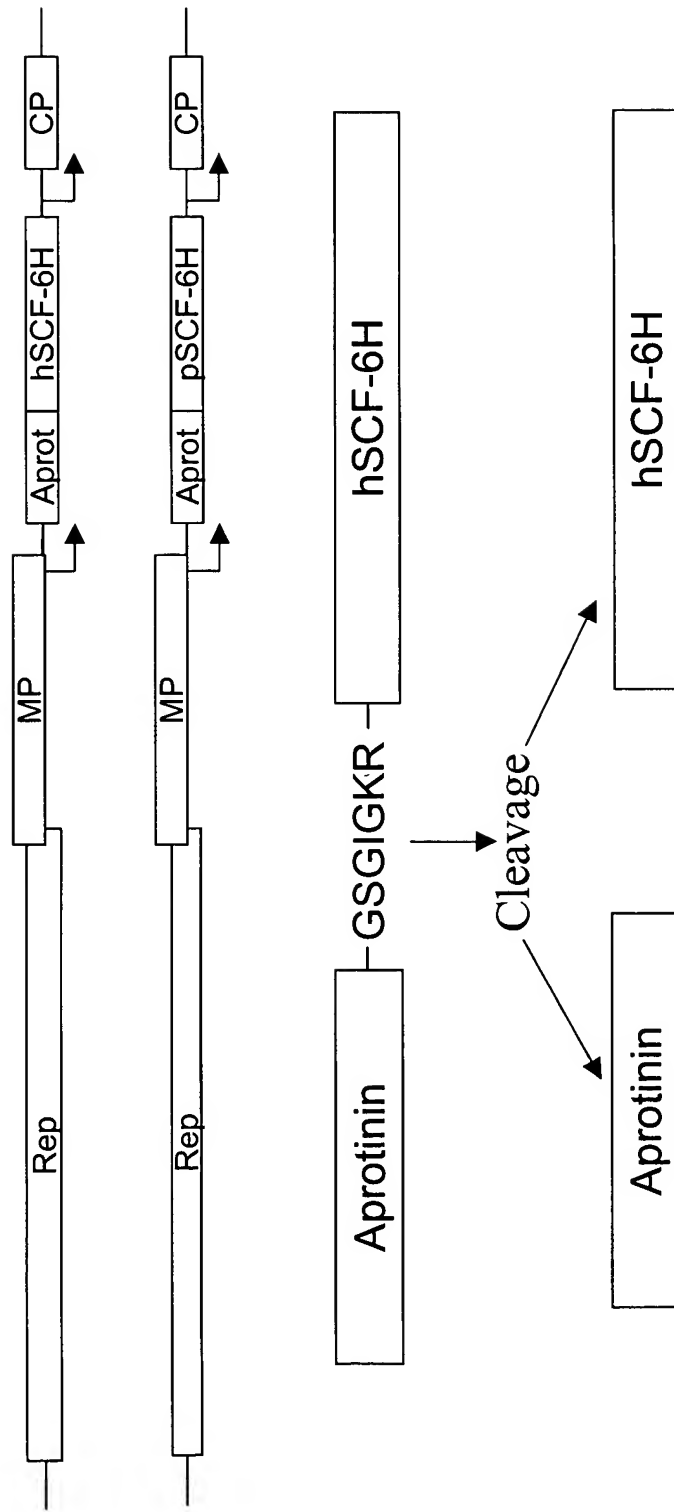




FIGURE 18

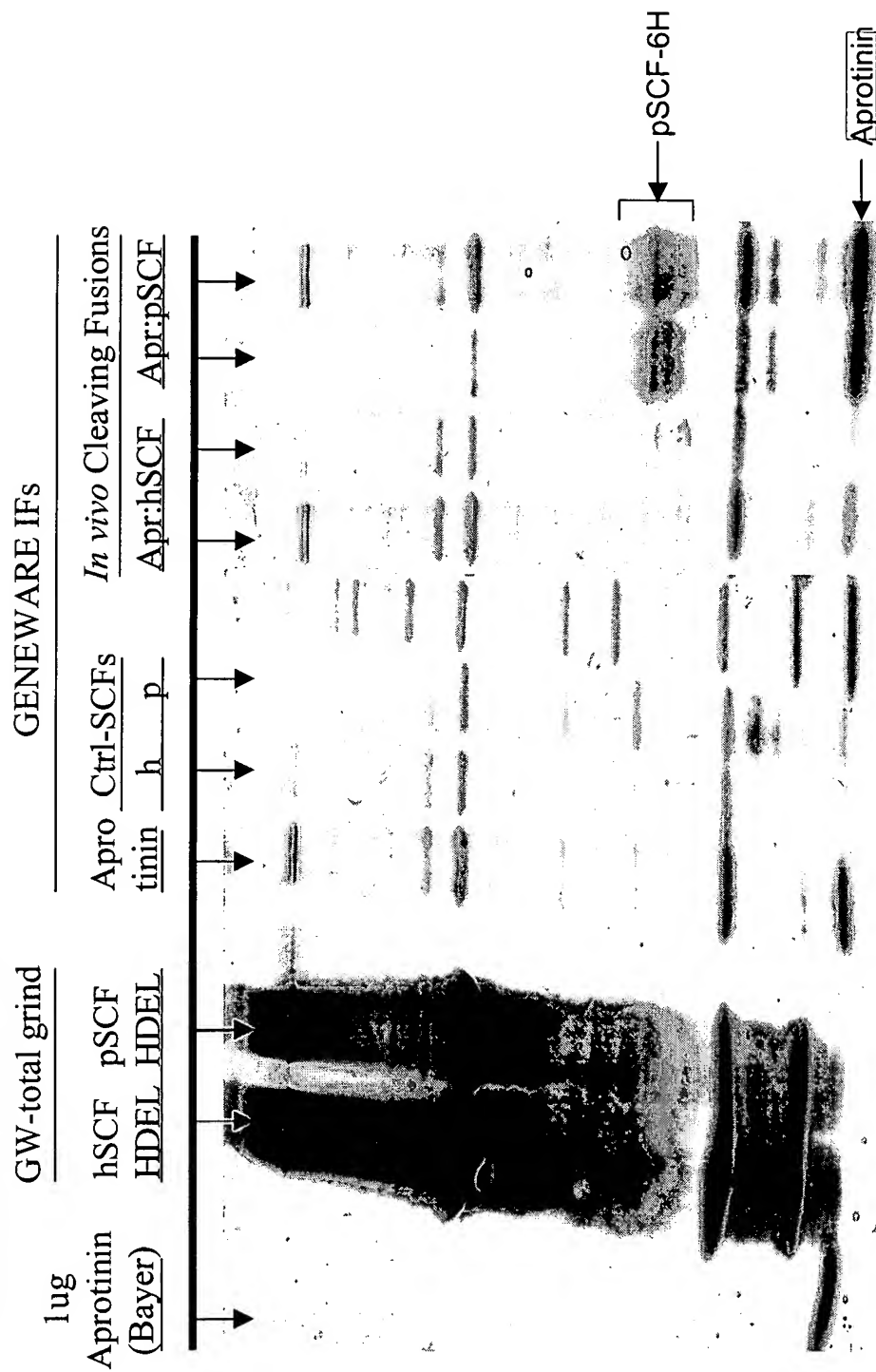
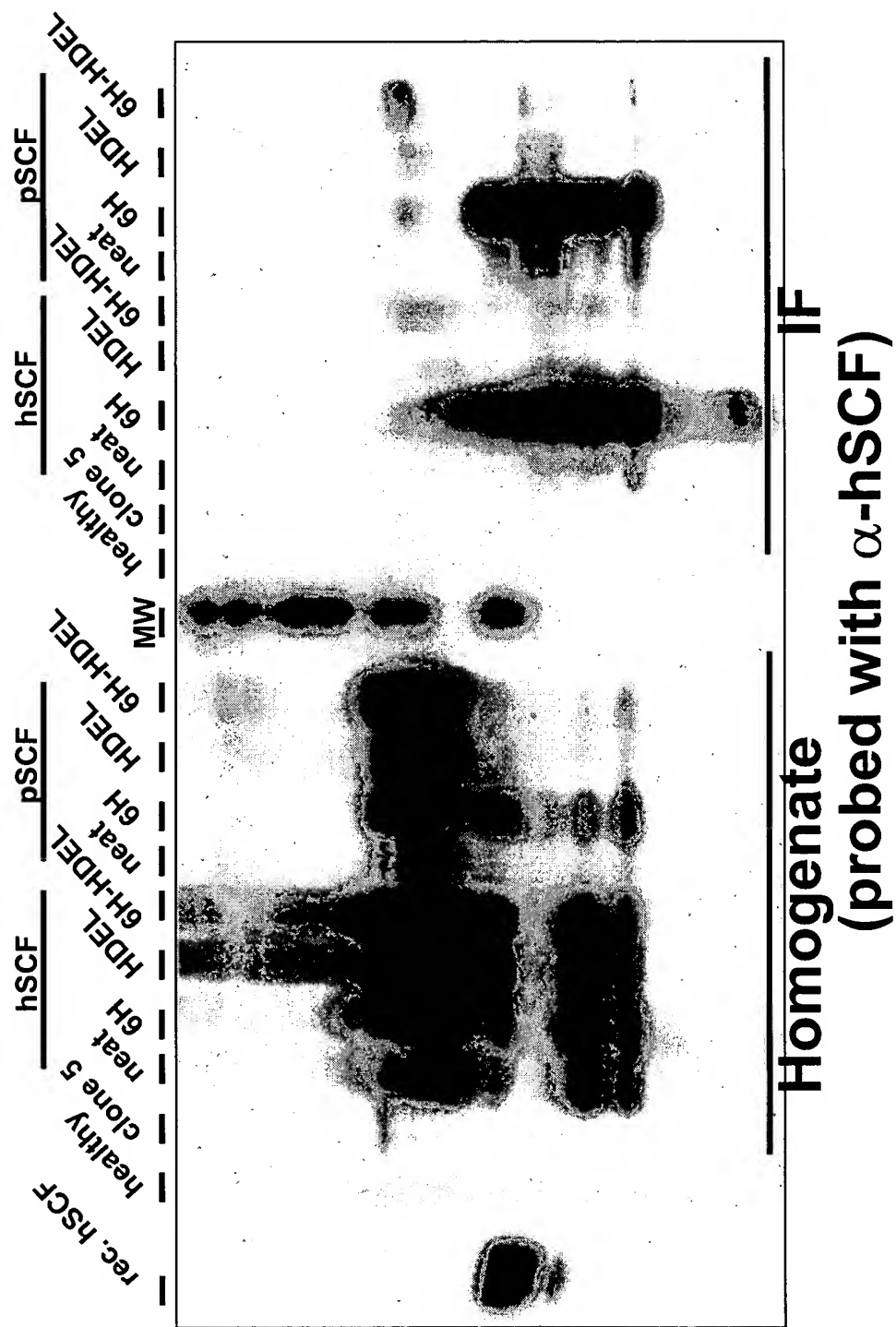


FIGURE 19
Western Blot Analysis of hSCF and pSCF
Extracted from Infected Plants



Protease Inhibitor-SCF Fusions
Anti-hSCF Western Blot

FIGURE 20

